VALUE ADDED COURSE

1. Name of the programme & (Code)

Adolescent substance abuse (**FMT- VAC 04**)

2. Duration & Period

30 hrs & July 2017 to December 17 and Jan 2018 to June 2018

3. Information Brochure and Course Content of Value Added Courses

Enclosed as Annexure- I

4. List of students enrolled

Enclosed as Annexure- II

5. Assessment procedures:

Multiple choice questions- *Enclosed as Annexure- III*

6. Certificate model

Enclosed as Annexure- IV

7. No. of times offered during the same year:

2

8. Year of discontinuation: 2018

9. Summary report of each program year-wise

Value Added Course- July 2017 - June 2018					
Sl. No	**Course Code**	**Course Name**	**Resource Persons**	**Target Students**	**Strength & Year**
1	FMT-04	Adolescent substance abuse	Dr. S.N.Rathod	2nd MBBS	20 (July 17 – Dec17)
2	FMT-04	Adolescent substance abuse	Dr. S.N.Rathod	2nd MBBS	20 (Jan 18-June18)

10. Course Feed Back

Enclosed as Annexure- V

RESOURCE PERSON **COORDINATOR**

Adolescent substance abuse

PARTICIPANT HAND BOOK

BIHER SLIMS

COURSE DETAILS

Particulars	Description
Course Title	Adolescent substance abuse
Course Code	FMT VAC 04
Objective	1. Terminology and classification 2. Etiology and pathogenesis of adolescent substance abuse 3. Epidemiology of adolescent substance use and psychoactive substance use disorders. 4. Dual diagnosis: Psychoactive substance abuse and psychiatric comorbidity 5. Adolescent substance use and psychoactive substance use: relation to suicidal behavior 6. Maternal and infancy addiction: adolescent mothers and their offspring 7. HIV/AIDS and psychoactive substance use in adolescents 8. prevention of psychoactive substance use disorders and suicide 9. Treatment modalities of psychoactive substance use
Further learning opportunities	Psychiatry ,Forensic Toxicology and Pharmacology aspects of substance abuse
Key Competencies	On successful completion of the course the students should be able to diagnose, manage ,prevent and treat adolescent substance abuse
Target Student	2nd yr MBBS Students
Duration	30hrs Every July 2017– Dec 2017 & Jan 2018 – June 2018
Theory Session	22hrs
Practical Session	8 hrs
Assessment Procedure	Multiple choice questions

1. Terminology and classification

Major efforts expended in recent decades toward developing a consequence-oriented, problem-based, clinically valid classification system have resulted in the inclusion of a large number of syndromes in the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSMIV), of the American Psychiatric Association (1994), or the generally comparable International Classification of Diseases, 10th edition (ICD-10), which has been developed to succeed the 9th edition (ICD-9) published by the World Health Organization (1980). However, for many of these disorders, including substance-related disorders, there are relatively limited data on key dimensions that are necessary for validating their designation as distinct disorders. The importance of diagnostic classifications rests in the communicative reliability of this system between professionals. Also, an ideal diagnostic label is expected to indicate the course of the disorder, the most likely prognosis, and the best available treatment . The purpose of this chapter is twofold: (1) to review the evolution of the diagnostic conception of PSUD up to the crystallization period of the new DSM-IV (American Psychiatric Association, 1994) and ICD-lO criteria and to investigate its application for adolescent psychoactive substance use disorder (APSUD); (2) to explore whether APSUD is sufficiently distinct from adult PSUD to merit a separate diagnostic entity. In other words, is APSUD a disorder with specific features that can be measured to provide clinical utility and predictive validity that are different from the present hypothesized model of adolescent-adult PSUD continuum? The following sections present a review of data both for and against such designation.

EVOLUTION OF THE NOSOLOGY OF PSYCHOACTIVE SUBSTANCE USE DISORDER

The same diagnostic criteria for PSUD are at present indiscriminately utilized for adolescents as well as adults. The research on the development of an operational definition of PSUD has lacked age population specificity. Lack of clarity, uniformity, and standardization in the terminology used for substance use disorders in general was demonstrated in the 1980s .This inconsistency is probably related to an array of concepts and terms in active use as well as disagreements among the variety of professional disciplines involved in the field. The state of the art regarding the validity of APSUD is also unclear, because it has not been thoroughly investigated, nor has its clinical utility and specificity been negated.

DSM-III Substance Use Disorders: The categorical approach to pathological use of drugs resulted in DSM-III (American Psychiatric Association, 1980), in which the terms "abuse" and "dependence" were the pivotal concepts in the section entitled "Substance Use Disorders." Necessary for the diagnosis of dependence in DSM-III were tolerance or withdrawal or both. Substance abuse in DSM-III, on the other hand, focused on impairment in other life domains as a result of use. The division of substance abuse disorders into these two categories has been supported by several research groups (Filmore, 1988; Hasin, Grant, & Endicott, 1990;

Roizen, Cahalan, & Shanks, 1978). Recently, Hasin et al. (1990) reported a 4-year longitudinal epidemiological study of male drinkers. At follow-up, 70% of the subjects who were initially classified as alcohol abusers were either still abusers or classified as remitted and only 30% progressed to alcohol dependence. This finding contrasted significantly with the commonly held assumption that abuse is usually a prodromal phase to dependence and thus supported the distinction between abuse and dependence. Furthermore, this distinction was reported to be moderately predictive of disorder severity and treatment outcome . Other predictors, however, including age of onset and intensity of alcohol or drug use , family history of substance abuse-dependence and number and severity of comorbid conditions, especially antisocial personality, have predicted both severity and outcome at least as robustly (N athan, 1991). The progress in terminology attributed to DSM-III was captured by Nathan (1991), who stated that DSM-III moved away from the implicit moralizing that burdened those positions of DSM-I and DSM-II devoted to substance abuse and dependence, the sexual deviations, and antisocial behavior. It did so, in part, by allocating a separate category to the substance use disorders, thereby eliminating the guilt by association implicit in their DSM-I and DSM-II placement. In addition, the text of the DSM-III highlighted research findings that implicated sociocultural and genetic factors in the etiology of these disorders, thereby emphasizing the role scientists and clinicians had begun to play in their study and treatment.

Criticism of DSM-III criteria for abuse-dependence has mainly addressed its inflexibility in accounting for the heterogeneity among identified patients and problems with specificity and sensitivity (Rounsaville, 1987; Rounsaville, Spitzer, & Williams, 1986; Schuckit et al., 1985). Rounsaville (1987) identified the following seven key problems: (1) There is a lack of reference to coexistent features commonly manifested in these disorders. (2) The conceptualization of substance use disorders is not theory-driven. (3) The use of tolerance as a criterion for dependence is not specified. (4) The relation between abuse and dependence is inconsistent and illogical in several substance categories in DSM-III. (5) Blackouts are incorrectly defined in the alcohol abuse and dependence criteria. (6) The limiting, time-linked phrases (e.g., one month duration, intoxicated throughout the day) were not derived empirically and, in many instances, do not accord with clinical experience. (7) Quantity and frequency of drug use are inconsistent features of the criteria. Nathan (1991) pointed out that the dependence criteria include and sometimes mix two different concepts: psychological dependence, characterized by a pathological pattern of use, and physiological dependence, demonstrated by a substance-specific withdrawal syndrome. Kleber (1990) noted that there was no provision in DSM-III for severity of dependence. Also, there is no distinction between dependence and long-term medical use of an opiate or sedative that results in tolerance and that, with abrupt cessation, is likely to result in withdrawal. According to DSM-III, opiate and sedative dependence with no abuse are considered

psychiatric disorders, whereas similar states related to chronic use of antihypertensive drugs or tricyclic antidepressants are not.

Conclusion: The state of the art of APSUD does not support a distinct adolescent-oriented category separate from the present DSM-III-R/IV oriented terminology. Also, severity and chronicity do not appear to account for differences in age-related symptomatology, and their impact on meeting the criteria of PSUD phenomenology (besides medical complications) is limited. However, these conclusions do not preclude such a development in the future, especially following more empirical research regarding some key questions for which there are no data: (1) What is the natural history of PSUDs in children and adolescents? (2) What are the nature and magnitude of spontaneous recovery among adolescents? (3) What are the magnitude and nature of the effects of experimentally controlled use of alcohol and other psychoactive substances in adolescents? It is dear that such research may be constrained by legal restrictions and may therefore have to be postponed until these individuals reach adulthood. Lack of such research limits our understanding about subgrouping of adolescents with APSUDs. Any further development in adolescent substance abuse prevention and treatment will have to rely on age-appropriate generated nosology and data. Finally, the potential for the existence of "good prognosis APSUD" needs to be explored, particularly following Hasin et al.'s (1990) findings that most alcohol abusers did not progress to alcohol dependence. Most adolescents with alcohol abuse do not fit Babor's (1992) or Cloninger's (1987) description of a "malignant" course alcoholism. Therefore, it is reasonable to suggest that there are at least two different types of alcoholism in adolescence. It appears that PSUD with conduct disorder, with or without depressive symptomatology, shares considerable similarities with Type B or Type 1, and alcohol abuse or dependence without comorbid conduct disorder may be comparable to Type A or Type 1.

2.Etiology and Pathogenesis of adolescent substance abuse:

There is a growing consensus in the literature that children of alcoholics (COAs) or of parents with other psychoactive substance use disorders (PSUDs) are more prone to PSUDs and PSUD-related problems than are children of non-abusers . Also, PSUDs and other psychiatric disorders such as antisocial personality disorder (ASPD) and mood disorders tend to cluster in families . COAs are at least 4-5 times more likely to become alcoholics than are children of non-alcoholic parents (Goodwin, 1985). Variables that are most reliably associated with heightened risk of alcoholism are family history of alcoholism and history of antisocial behavior in adolescence (Nathan, 1988). Indeed, based on more than 100 studies reviewed by Cotton (1979), the strong familial aggregation of alcoholism is one of the most robust findings in medical research. There is no universal consensus regarding an etiological model of PSUD that may apply to the different subpopulations. Present

evidence points to the importance of multiple factors such as genetic-biological, developmental, and environmental processes. The most demonstrative and influential empirical study recognizing the heterogeneity of the population of alcoholics was derived from an investigation of the importance of biological vs. environmental etiology of alcoholism. It has been concluded that some alcoholics may have developed alcoholism because of environmental causes (Type 1: milieu-limited), whereas others may have been influenced by a strong genetic vulnerability for an early-onset (Type 2: male-limited) alcoholism. The growing understanding of the importance of the heterogeneity of patterns of psychoactive substance use, abuse, and dependence-each potentially having multiple etiologies-and reports that perhaps only 30% of the variance of familial transmission of alcoholism is attributable to genetic factors. Investigators from various fields, such as molecular and clinical genetics, pathophysiology, and neuropsychopharmacology, as well as psychopathology and sociobehavioral science, have participated in efforts to improve understanding of the etiology and pathogenesis of PSUDs. There are distinct advantages in taking a broad-spectrum approach to this endeavor, since doing so favors the widely accepted multifactorial paradigm of addiction (Nathan, 1990). However, it is important to acknowledge the likelihood that each factor carries a different etiological and/or pathogenetic relative weight. The research results are then biased toward a unidimensional etiological explanation. Although there has been rapid growth in the literature on adolescent substance use (ASU) and adolescent PSUDs (APSUDs), research on this population is still in its infancy. Also, due to the longer history of research on adult alcoholism (as compared with that of research on abuse of other psychoactive substances), the relative magnitude and depth of studies on the etiology and pathogenesis of alcoholism are greater. These facts are especially noteworthy because, when appropriate in this discussion, relevant adult-oriented literature on alcoholism is presented and relied on as a basis for generalization. However, it is crucial to remember that although alcohol abuse/dependence is a subset of PSUD, results should be generalized cautiously and their limitations noted. This chapter examines the vast literature pertaining to multiple determinants of risk and invulnerability to APSUDs (i.e., genetic-biologieal, developmental, environmental) as well as to the transition from ASU to APSUD. The importance of distinguishing between normative and pathological use of psychoactive substances is illuminated in terms of developmental task perspective. The biopsychosocial approach utilized in this chapter hel ps to emphasize that because the initiation of ASU, the transition to PSUD, and the maintenance of PSUD and related behaviors may be predicted by somewhat different etiological pathways, different therapeutic interventions (e.g., prevention, treatment) may be implemented along the life span. Attempts to separate geneticbiological contributions to the development of ASU and PSUDs from developmental and environmental factors may appear to be forced and artificial, if not impossible.

GENETIC-BIOLOGICAL RISK FACTORS: How early do risk factors appear? Following a genetic-biological approach, one would assume that risk factors are constitutional and may be detected even before the child is born using the techniques of molecular genetics. If that is the case, taking the spectrum of alcohol consumption through alcohol dependence, for example, then what is inherited?

Drinking habits? Alcoholism per se? A suspectibility to alcoholism? Related comorbidity? Or are there any other possibilities? Also, do the behaviors related to the phenomenon of alcohol drinking or the fullblown disorder result from the impact of one or more genes? What genes may be responsible for the coexpression of additional comorbidities? To answer these intriguing questions, three main designs for behavioral genetic studies have been utilized: (1) Twins who have identical genomes have been studied in comparison to twins who share only half their genes. (2) Adopted-away COAs constituted the population for a second research method. (3) Genetic markers associated with alcoholism or other PSUDs or both have been sought, especially in high-risk populations (particularly in COAs).

Genetic Studies of Dopamine Receptors: The brain's dopaminergic reward system in the mesolimbicmesocortical area attracted the interest of investigators who reported on the ability of psychoactive substances to activate these systems. Molecular geneticists detected the gene for the dopamine D2 receptor (DRD2) on chromosome 11, and Blum et al. (1990) provided initial evidence that DRD2 might have an influence on susceptibility to alcoholism. The findings of Blum et al. (1990) need to be viewed with caution because of the small size of the sample of deceased alcoholics whose brain tissue was the source of the DNA investigated. Also, in view of the presumed heterogeneity of alcoholism and its likely polygenic causes, it is unlikely that one gene has the power to identify almost 70% of alcoholics . Two alleles of the D2 receptors named A) and A2 were detected on chromosome 11 by Blum et al. (1990). The A) allele was reported to be related to alcoholism. Ethnic-racial variations were reported regarding this allele (i.e., the frequency of the A) allele in African Americans is significantly higher than in whites). Alcoholics displayed approximately twice the amount of A)allele displayed by control populations. The severity of alcoholism appeared to be directly correlated with such an association. The A) allele has also been found to be associated with Tourette's syndrome, attention-deficit hyperactivity disorder, and autism. Subjects with histories of polysubstance abuse also yielded elevated A) and more significant B) frequencies (Smith et al., 1992). Another recent publication reported that genetics plays a role in determining smoking behavior according to a study of male twins (Carmelli, Swan, Robinette, & Fabsitz, 1992). The study indicated significant familial influences .on smoking behavior, but not on smoking intensity. Three components of smoking behavior (never smoked, current smoking, and quitting) were moderately influenced by genetic factors. The authors concluded that smoking could be viewed as a collection of forms of behavior rather than a single habit. In conclusion, the pattern of alcoholism inheritance does not fit a single-gene (Mendelian) pattern of inheritance such as in color blindness or Huntington's chorea. No single gene is postulated to control such a complex behavior as is manifested in alcoholism. Observed rates of alcoholism are not consistent with a simple polygenie model either (assuming a number of genes of approximately equal impact) (Dinwiddie, 1992Also, it is suggested that caution be exercised in concluding that genetic markers that have been found may be the ultimate answer to an accurate subtyping of alcoholics or high-risk populations. Finally, evidence to date suggests that if the allele modifies risk for alcoholism, it does so in a nonspecific

way, possibly by modulating the phenotypic expression of alcoholism. However, it is still inconclusive whether the Al allele is a modifier or only a potential marker. Further rigorous and replicable research is needed in this domain.

3.Epidemiology of adolescent substance use and psychoactive substance use disorders

It has been reported that in the early 1990s, the general down- ward trend in the prevalence of drug use that started in 1980 has continued. Despite this encouraging report, which implies that adolescents continue to move away from the use of drugs (especially alcohol, marijuana, and cocaine), a considerable number of youngsters continue to use illicit drugs. The measurement of adolescent substance use (ASU) and adolescent psychoactive substance use disorders (APSUDs) is complicated by the facts that the desired information pertains to illegal behavior related to age or drugs of use, or both, and that subpopulations of interest may not volunteer to cooperate. Other key issues reported are trends in attitudes and beliefs about drugs, especially regarding perceived harmfulness, perceived availability, and personal disapproval of drug use. The study, subtitled also "Monitoring the Future," includes neither the estimated 20% of high school dropouts nor absentees on the day of survey at each schooI. However, the stability of the reports generated over 17 consecutive years provides a good measurement of trends in that seniors who are frequently truant are similar in many respects to dropouts . Given that drug use is higher among dropouts, it is likely that the inclusion of dropouts would tend to raise the observed prevalence rates for all drugs and all subgroups. Eighth-grade students represented the junior high school population and 10th-grade students as weIl as seniors represented the high school population. These sub populations may reduce the impact of school dropouts on prevalence estimates. On the basis of the 1991 survey, the trends of drug use of most psychoactive substances studied may be divided into two groups. Group 1 included drugs such as the three most commonly used ones, alcohol, marijuana, and cocaine, with the addition of the category defined as "Other Stimulants." This group shows a consistent trend of reduction in use, including annual prevalence, 30-day prevalence, and, most important, 30-day prevalence daily use . Group 2 includes most of the other illicit drugs, the use rates of which either are down, by less than statistical significance, or have remained fairly stable at a low level of use. These drugs include mainly inhalants, crystal methamphetamine ("ice"), heroin, phencyclidine (PCP), sedatives, and anabolie steroids. Cigarette smoking and the use of lysergic acid diethylamide (LSD) by adolescents deserve specific attention due to an arrest in the mild decline trend of the former and the increase in use of the latter.

TRENDS IN THE USE OF SPECIFIC DRUGS PER SUBPOPULATIONS :

Cigarette Smoking: The rate of smoking among males dropped slightly more than among females, resulting in a modest reversal of the sex differences (in contrast to the situation with most other drugs used. Among 8th graders, 44% have already tried cigarettes. Initiation of use when they were 6th graders was reported by 20%.

Alcohol:

The proportions of seniors who had drunk in the last 30 days dropped 3% from the 1990 level and 18% from a decade ago. The rate of decline of binge drinking was about 2% in 1991 and about 10% as compared to 1981. The 30-day prevalence declined more than 3% and daily use was reduced by only 0.1 % in the last year. The sex differences in alcohol use have narrowed. Gender differences in annual prevalence have been virtually eliminated. The proportions of males admitting to binge drinking continued to decline in the 1980s, whereas the decline in binge drinking by females was more modest, resulting in a continued narrowing of the gap between the sexes. Reports on various types of alcoholic beverages indicate that the largest sex difference is attributed to heavy use of beer by males. Hard liquor is consumed only slightly more by males than by females. Females tend to drink more wine coolers than male seniors, and wine is equally used by both sexes. Drinking in the past year is reported by 54% of 8th graders, 27% report having gotten drunk at least once , and 13% admitted to binge drinking during the 2-week period prior to the survey. More than 8% started drinking before or in the 6th grade. Alcohol use among the white and Native American subgroups is higher than among other ethniclracial subpopulations. Rates of daily drinking were the highest among 12th-grade Native Americans and were nearly as high among Mexican Americans and white seniors. Within each of these groups, daily drinking is about 2-4 times as likely among males as among females. African-American, Hispanic, and Asian-American females are more likely to abstain from alcohol than are white females.

Marijuana: This is the most widely used illicit drug among high school seniors. Marijuana has been referred to as a "gateway" drug . Indeed, the single best predictor of cocaine use is frequent use of marijuana during adolescence. Only 1 % of those not regularly using any drug and 4% of legal drug users had experimented with opiates, cocaine, and hallucinogens, as compared to 26% of marijuana users . Annual prevalence rates for marijuana are highest among Native American females and males, and nearly as high among white males and females and Mexican American males. The lowest annual rates are reported by Latin-American females, African-American females, and Asian-American males and females. Monthly and daily rates maintain the same racial and ethnic distinctions. Male female differences are more pronounced among African Americans and Hispanic

Anabolic steroids: These agents were added to the survey in 1989. Since then, there has been a very gradual decline in lifetime and annual prevalence. Among males, who account for most of the steroid use, the proportions using in the prior year were 2.8% in 1989, 2.6% in 1990, and 2.4% in 1991. For just the boys in the 8th, 10th, and 12th grades, the corresponding rates are 3%, 3.1 %, and 3.5%. Risk groups for exposure are athletes and bodybuilders, who use steroids to enhance their ability and to be aggressive and wrestlers concerned with making their weight class. In another recent study of adoleseent users of anabolic steroids, it was reported that

about 250,000 seniors have used these substances at least once and that those adolescents who became chronic users were more likely to use other drugs as well. Many of these adolescents reported having shared needles.

4. Dual diagnosis: Psychoactive substance abuse and psychiatric comorbidity

Adolescence is a critical developmental phase for the onset and recognition of psychiatric disorders including psychoactive substance use disorders (PSUDs). The co-occurrence of PSUDs with other psychiatric disorders has been termed a "dual diagnosis" (DD), and the patients so diagnosed have been defined as "dually diagnosed" (DUDI). The prevalence of DD is high, and the recently increased recognition of the concept of comorbid * disorders has important clinical, public health, and research implications. From the clinical perspective, subgroups of DUDI individuals may respond differentially to specific therapeutic approaches. Regarding public health interests, subgroups of adolescents with comorbid disorders may be at a higher risk of contracting or manifesting additional disorders and of increased severity of the course of each one of the index disorders. The implications for research on DD are that more homogeneous subgroups within a given diagnostic category can be studied to broaden the knowledge about this diagnostic entity. This chapter reviews the methodological and nosological issues in diagnosing and understanding the nature of DD, the epidemiology of DD, and the specific relationship between a variety of psychiatric disorders and PSUDs of adolescents and their families. Finally, special reference is made to future clinical and research implications concerning prevention and treatment of DD. The literature on comorbidity in adults is used as a departure point in some sections due to the sparsity of data on adolescents.

It is often unclear whether a patient's symptoms are a consequence of substance abuse per se or are indicative of a comorbid psychiatric disorder. Moreover, in such patients, the sequelae of psychoactive substance intoxication or withdrawal or both are often difficult to distinguish from the signs and symptoms of concurrent psychiatric disorder . It is important to reemphasize that dual diagnosis is a term limited to the relations hip between disorders and is not applicable to symptoms associated with PSUDs, which are considered to be manifestations of the severity of PSUDs. Rather than accepting reports of DD at face value, one must maintain increased awareness based on an understanding of conceptual and diagnostic models in the practical context delineated above to limit potential pitfalls in a relatively sparsely researched domain. The diagnostic process of co morbid disorders and the reliability and stability of DD are factors of great importance that as yet have been reported only in research conducted with DUDI adults. Regarding the diagnostic process, information derived from multiple informants is believed to facilitate the process and to enhance the specificity of prevalence estimates of disorders. Also, in the case of DD, a "best estimate" procedure may be helpful in enhancing the accuracy of the diagnostic process. Such a procedure is

especially likely to be helpful when data from direct interview either are missing or may be inaccurate if the subject withholds or provides false information. A "best estimate" diagnosis is one made by a clinician on the basis of diagnostic information from a direct interview conducted by another clinician plus information from medical records and from reports of family members. It has been reported that current mood disorders and psychotic disorders were less reliably diagnosed in a group with current PSUDs compared to two control groups, one with past PSUDs and the other without a history of PSUD . However, the results were adequately reliable to aid in classification. It was also concluded that delaying diagnosis until at least 1-2 weeks after cessation of drug use is likely to improve classification results. A study of the stability of psychiatrie comorbidity in alcoholic men after 1 year revealed that the symptoms are stable over time and therefore constitute a potential target for treatment . Thus, patients over time tend to minimize the number and intensity of symptoms associated with other psychiatric disorders rather than simply to deny all symptoms at one time and acknowledge other symptoms at another. In order to make a reliable and valid psychiatric diagnosis, rating scales are frequently utilized. However, some argue that the assessment of comorbid psychopathology, especially of depression among substance abusers, lacks acceptable specificity. Indeed, the results among adult patients support only limited use of measures .

The rates of anxiety disorders, major depression, and substance use disorders were high in the age group of 18-24 years. About 22% of the 18- to 30-year-olds had a substance use disorder according to DSM-III, and fewer than one third of them had a comorbid depressive or anxiety disorder manifested before age 20. Moreover, almost 3 of every 4 subjects with psychiatrie comorbidity indicated that the substance abuse started later than the other psychiatric disorders. These findings demonstrate a doubling of risk for subsequent substance use disorders in young adults who have had an earlier depressive or anxiety disorder. The relationship between depression and PSUDs in adolescents has recently received increased attention following analysis of the age of onset of psychiatric disorders. The prevalence of psychiatric disorders among alcoholics and other substance-abusing adults was found to be very high. Ross, Glaser, and Germanson (1988) reported that 78% of their 501 patients with substance use disorders met DSM-III criteria for a lifetime comorbid psychiatric disorder, with 65% suffering from a concurrent psychiatric disorder. Confirming these results is a study that reported that 81 % of 339 alcoholics were found to have associated mental disorders (Roy et al., 1991). The most common lifetime disorders were other drug abuse, ASPD, mood disorders, and anxiety disorders. Studies among treated adolescents with PSUDs also revealed a high prevalence of comorbid disorders, primarily mood or conduct disorders or both. In a study of 459 adolescents seen for psychiatrie evaluation in a general hospital emergency room, it was reported that almost half those with elevated blood alcohol levels (17% of the total sample) had at

least one additional psychiatric diagnosis, with depression being the most common (Reichler, Clemente, & Dunner, 1983). A study of 41 adolescents admitted to a psychiatric hospital for psychiatrie disorders concluded that about 70% were also diagnosed as substance abusers (Roerich & Gold, 1986).

5. Adolescent substance use and psychoactive substance use: relation to suicidal behaviour

The leading external causes of adolescent morbidity and mortality are motor vehicle accidents, homicide, and suicide, in declining order. Adolescent psychoactive substance use disorders (APSUDs) and unprotected sex leading to teenage pregnancies, abortions, and communicable diseases including acquired immunodeficiency syndrome (AIDS) are also major problems of epidemic proportion. However, among black adolescent males, homicide is the leading cause of death . Substance abuse, availability of arms, social stressors, low socioeconomic status, and increased interpersonal violence contribute to the problem. This chapter primarily reviews the association between APSUDs and suicidal behavior. Additional high-risk behaviors/activities that are presumed to be associated with PSUDs and suicide. Many studies have reported an elevated risk ratio for suicidal behavior in adults diagnosed with PSUDs . The sparsity of literature on the relationship between suicidal behavior and adolescent substance use (ASU) or APSUDs causes concern for the following reasons: 1. Suicide rates for the 15- to 24-year age group have almost tripled since the late 1950s, and suicide is now the second leading cause of death for this age group . 2. Adolescents display the highest involvement with psychoactive substances. 3. Concomitant psychopathologies, especially conduct and mood disorders, have been identified as risk factors for adolescent suicide and are frequently diagnosed in adolescents with PSUDs. Retrospective studies and psychological autopsy investigations of adolescent suicides provide most of the data about the relationship between suicidal behavior and APSUDs, although methodological constraints limit the generalization of conclusions derived from such studies. There is an unfortunate mental and conceptual gap that predudes adults from acknowledging and accepting adolescent behaviors in the context of normal adolescent development. Behaviors such as adolescent substance use, early sexual experimentation, risky driving, musical preference, and even an occasional interest in the occult are components of the adolescent life-style. A behavior should be considered risky when it can compromise physical health and psychosocial aspects of successful adolescent development. PSUDs, unprotected sex, violent behavior, driving while intoxicated, school dropout, and immersion in the occult are some obvious examples. The clinical utility of life-style as a useful concept is measured by its focus on the adolescent as a whole rather than on each potentially risky behavior. PSUD is a high-risk factor for suicidal behavior. An adolescent male who is likely to be intoxicated and to have access to a firearm is at the highest risk for suicide. An additional diagnosis of conduct disorder, mood disorder, or personality disorder, and lack of intervention by a mental health professional, especiallY after a precipitating stressful event, previous suicide attempts, and homicidal ideations, add to the risk. Although there has been a clear association between depression and suicidal behavior among adolescents, the clinician should exercise caution in assuming that suicide risk declines significantly following an adolescent's response to treatment for depressive symptomatology. The existence of other high-risk factors such as substance abuse and other environmental factors is still a threat. It is difficult to predict who will commit suicide, even among highrisk adolescents. However, decreased availability of firearms and treatment of PSUD and other accompanying psychopathology are

important. Research on adolescents with PSUDs and the suicidal behavior spectrum is particularly valuable when the methodological design is solid, the studies provide a longitudinal perspective, and a random doubleblind design is utilized. Finally, biological factors and markers should be explored in these adolescents and first-degree relatives. Only comprehensive and sound research will be able to provide us with extended understanding of the subject.

7. HIV/AIDS and psychoactive substance use in adolescents

The acquired immunodeficiency syndrome (AIDS) represents the end stage manifestation of a prolonged infection with the human immunodeficiency virus (HIV). Children and adolescents may contract AIDS from sexual contact with any infected person, following injection with contaminated blood, or from pre- or perinatal transmission. This chapter reviews various aspects of HIV and AIDS in relation to psychoactive substance use disorders (PSUD) in parents and their children as well as among adolescents. Females and children with HIV infection currently represent two of the fastest-growing populations in the HIV / AIDS epidemic in the United States (Etemad & Ponton, 1991). The vast majority of pediatric AIDS victims (84%) contracted the disease from their mothers in the perinatal period. Of the mothers, 49% were intravenous drug users (IVDUs) and 21 % were sex partners of IVDUs, and 16% of these children were born either to mothers with HIV infection, risk not specified, or to sex partners of males with HIV, risk unspecified (AACAP HIV Issues Committee, 1991). Infection by blood products accounts for fewer than 3% of children with AIDS, and sexual molestation by infected adults is rarely a documented source of HIV infection in children. Some obstetric services have reported HIV-seropositive rates of 1- 3% among their pregnant patients (Nanda, 1990. Also, significant differences exist between rates reported in the inner city vs. rural areas. The most recognized adolescent risk group consists of disenfranchised inner city youngsters using psychoactive substances and engaging in unprotected sex. Also, homeless youths and male or female prostitutes of adolescent age are at high risk for AIDS and HIV transmission to others. The prevalence of teenage pregnancy in the United States is the highest in the industrialized world, and teenage females who are IVDUs or engage in unprotected sex, or both, may infect their fetuses. Psychoactive substances may impair judgment and reduce inhibition, thus leading to risky sexual behavior; condoms also were less likely to be used if use of alcohol or other psychoactive substance was combined with sex (CDC, 1991). The relationship between the use of specific psychoactive substances and increased risk factors for AIDS has been investigated.

Opioids: Compromised immune function as a result of exposure to opiates may add to the risk of infection and disease progression. This increased risk results from more than simply the use of shared needles (Schleifer et al., 1991). In addition to decreased lymphocyte functional responses, a significant reduction in numbers of T-cells has been reported among opiate users. Incubation of heroin addicts' cells with the opiate antagonist naloxone reversed some of the immune effects . Impairment in cell-mediated immunity related to heroin use has also been suggested. Further investigations are needed to shed more light on this matter.

Alcohol: Acute alcohol consumption has been implicated experimentally in the impairment of both cellular and humoral immunity. It is difficult, however, to extrapolate these experimental results to naturalistic settings in humans. Natural killer cell activity, which plays a role in resistance to viral infection and neoplasia and may be involved in progression of HIV infection, is also inhibited by

alcohol use. Alterations in immune function are thought to play a role in the increased susceptibility to infection found in alcoholics.

Other Substances: Studies of the effects of cocaine and marijuana on human immunity have been conflicting. The relationship between polysubstance abuse and the function of the immune system has been examined. Opiates have been found to depress immune function and cocaine may reverse this depression when used in combination; however, alcohol attenuates the effect of cocaine . Other factors may further compromise the immune system and increase the risk of HIV infection and disease. These factors include malnutrition, life stress, and depression, which are highly prevalent in substance abusers. Interventions to treat these factors may therefore have important benefits. PREVENTION: Women with positive HIV status [tested by the enzyme-linked immunosorbent assay (ELISA) and confirmed by the Western blot] may wish to avoid pregnancy, since there is a substantial risk (50%) of transmission to the fetus in utero. It has been reported that 38% of women terminated their pregnancies after learning they were seropositive (Schleifer et al., 1991). By law, partner notification must be carried out, but to be effective it should be complemented with other outreach and educational interventions (AACAP HIV Issues Committee, 1991). Primary prevention among adolescents is increasing, although it is noteworthy that education for safer sex needs to stress the 5-15% failure rate of condoms in protecting against HIV transmission.

GUIDELINES FOR TREATMENT: A confidential pre- and post-HIV test counseling session is important, and HIV infection control and treatment need to be implemented following a sero positive result. Anti-HIV drug therapy with zidovudine (AZT) reduces morbidity, especially in children with AIDS dementia and encephalopathy. Assessment of neuropsychological functioning and psychiatrie needs is important. Access to health and social care is crucial, especially for children with infected parents or who are orphaned (AACAP HIV Issues Committee, 1991). 7.6. CONCLUSION The increased number of children and adolescents afflicted with HIV / AIDS and the association of maternal addiction and unsafe sex with perinatal transmission are major reasons for concern. Additional resources for prevention, treatment, and research of this epidemic are needed.

8. prevention of psychoactive substance use disorders and suicide

Efforts to prevent use and abuse of psychoactive substances by children and adolescents focus on interventions designed to reduce substance supply and demand. According to a report by the Board of Trustees of the AMA (1991), law enforcement and health authorities curtail the supply aspects by closing gaps in the drug control system, eradicating illicit drugs at the point of production, achieving balance between the demand for and supply of drugs manufactured for medical use and the control of diversion of such drugs to the illicit market, and obstructing or intercepting the trafficking in illicit drugs. According to the same report, reducing the demand involves deferring or precluding initiation of use by nonusers, reducing all use of illicit drugs and inappropriate use of licit drugs, and engaging in programs of prevention, treatment, and rehabilitation. Understanding early predictors of adolescent substance use (ASU) and the transitions involved in the progression to adolescent psychoactive substance use disorders (APSUDs) is critical for effective prevention. Defining target populations, outcome goals, and measurements for effective prevention strategies and programs is also necessary. The resources and participants to be enlisted in the prevention endeavors need to be defined and may be drawn from many sources, including immediate families, schools, community organizations, policy makers, and the media. This chapter utilizes data reviewed earlier in this book

regarding the onset and development of ASU and APSUDs to address the present state of and future perspective for effective prevention. The chapter also reviews adolescent suicide prevention because of the high incidence of suicidal behavior among adolescents with PSUDs. Successful efforts to reduce the prevalence of substance abuse can be utilized to introduce prevention-intervention in suicidal and other high-risk behaviors. A considerable body of literature concerning the etiological determinants of substance use, abuse, and dependence has been published, although most of the publications failed to discriminate among the levels of involvement. Most users to not make the transition to become abusers; therefore, it is crucial to understand the roles and the mechanisms of the factors responsible for the development of ASU vs. APSUDs. A detailed discussion of these factors is beyond the purpose of this chapter and is presented in other chapters. However, it is worthwhile to briefly review the pivotal factors and conceptual framework responsible for this transition. Genetic markers and twin and adoption studies provide evidence for the heritability of the liability for alcoholism and to a lesser extent for other PSUDs. The individual at risk is exposed immediately after birth and throughout life to environmental risk and protective factors. Among the most influential environmental factors are family, school, and peers. Psychopathology such as PSUDs may be the result of interactions of temperamental predisposition (e.g., difficult temperament) with environmental factors. However, there is a bidirectional "threshold effect" that may expose the child to the results of increased risk or corrective experiences that from the stand point of intervention may, respectively, enable or cause the individual to return to the "under-thethreshold" range or to remain in/progress to the "beyond-thethreshold" range. As the child matures, flexibility of behavioral repertoire diminishes, because habitual patterns of behavior become more and more firmly established. This crystallization of responses to environmental stimuli and interaction style makes interventions increasingly difficult to apply . If this stabilization of deviance happens "under threshold," it demands intervention in the form of prevention. However, if it occurs "beyond the threshold," treatment is the intervention of choice. Thus, from a pragmatic perspective, it appears that prevention and treatment are two subsets of intervention curricula that are to be applied at different chronological and severity points on the continuum of the subclinical phenomenon and the clinical disorder. This chapter utilizes data reviewed earlier in this book regarding the onset and development of ASU and APSUDs to address the present state of and future perspective for effective prevention. The chapter also reviews adolescent suicide prevention because of the high incidence of suicidal behavior among adolescents with PSUDs. Successful efforts to reduce the prevalence of substance abuse can be utilized to introduce prevention-intervention in suicidal and other high-risk behaviors.

The 1986 Anti-Drug Abuse Act defined high-risk youth as children and teenagers under age 18 who, because of the presence of certain characteristics and conditions. are especially likely to use illegal drugs and/or alcohol. This definition recognizes "characteristics" (i.e., constitutional traits) and "conditions" (i.e., environmental circumstances) as instrumental for the development of PSUDs. The nine risk factors included in the 1986 Act are as follows: (1) the economically disadvantaged; (2) children of substance-abusing parents; victims of (3) physical, (4) sexual, or (5) psychological abuse; (6) runaways or homeless youth; (7) school dropouts; (8) pregnant adolescents; and (9) adolescents who have attempted suicide. As Clayton (1992) noted, these are the "types" of children and adolescents for whom services are rendered in the communities. There is also a certain level of confusion in these risk factors, however, because most of them could serve as effects as well as causes of PSUDs, depending on the temporal ordering and direction of the relations hip. These risk

factors are in accord with the conceptual framework presented in the problem-behavior theory and with the increasingly recognized reality that adolescents at high risk for PSUDs or who have already developed PS UDs have multiple problems or deviant behaviors such as delinquency, suicidal behavior, unplanned pregnancy, and more. The most common approaches to primary or early prevention are media campaigns and education programs. The goal of primary prevention among children and adolescents is to defer or preclude initiation of drug use, especially cigarettes, alcohol, and marijuana. These targeted "gateway" drugs serve as "villains" based on the fear arousal model of prevention . Even experimental use of these drugs is portrayed as dangerous, especially in mass media campaigns. Films and videos that dramatize the risks associated with drug use are usually utilized. The traditional education program is a prevention strategy used mainly in the form of information dissemination. An approach making use of informative materials to increase knowledge of the consequences of drug use, and promotion of an antidrug attitude in a classroom setting accompanied by displays of substances and relevant literature, is common. These approaches to prevention among children and adolescents were found to be ineffective by empirical studies, as reviewed by Schinke, Botvin, and Orlani (1991). The assumption that increased knowledge will decrease drug use was found to be invalid. In fact, there were reports that this approach may serve to increase adolescents' curiosity, which may initiate substance use . Media campaigns may tackle prevention by aiming at reducing harmful behaviors related to drinking. Success in the decrease of injuries related to drunk driving suggests that media intervention with motivated individuals is effective (Nathan, 1990). At the same time, however, the media indirectly provoke the adolescent to seek out cigarettes and alcohol by portraying the products as harmless and "cool" to use (e.g., Joe Camel, beer commercials). Coate and Grossman (1987) reported that use of alcohol by youths declines when either the price of alcoholic beverages or the legal drinking age increases. This finding should encourage community efforts to influence appropriate legislation. Affective education, designed to increase self-esteem and enhance responsible decision-making and personal growth, was another approach to prevention in the 1970s. No information on drugs was included in the program, yet the expectation was that the youngsters would be able to make the right decision regarding drug use. Both approaches, i.e., affective education and alternative activities, were found to be ineffective in the prevention of drug use. In fact, in the quest for a "natural high," as experienced in wilderness programs and in some entertainment and vocational programs, there were reports of increased substance abuse. Reports regarding the ineffectuality of these approaches to primary prevention were supported by two recent publications . It was concluded that a unidimensional approach to prevention in an extremely heterogeneous population is likely to be ineffective for a large percentage of participants (Tarter, 1992). A more advanced strategy for prevention is based on a psychosocial approach. These prevention programs are aimed at enhancing and social skills). These strategies are employed as part of primary, secondary, and tertiary prevention strategies and usually utilize manuals in group settings. Such strategies are rooted in social-learning theory and problem-behavior theory . According to the social-learning theory, individuals learn how to behave according to a four-component model: (1) role modeling, (2) reinforcement, (3) establishment of normative expectations, and (4) coping with social pressure. A fifth component is sometimes employed, i.e., training for generalization. A program entitled "Life Skills Training" based on the social-learning theory was developed by Botvin, Baker, and Renick (1984). The program was taught to 6th and 7th graders, at times led by peers, and resulted in significant improvements. The problem-behavior theory derives from a sociopsychological framework and recognizes the importance of the complex interaction of personal factors (cognition,

attitudes, beliefs), physiological genetic factors, and perceived environmental factors to problems occurring during adolescence, such as drug use, precocious sexual behavior, and delinquency . A problem behavior is one that is identified as a problem within the context of a particular value system and that elicits a social response designed to control it. Substance use, therefore, helps the adolescent to achieve personal goals such as peer group approval and alleviation of discomfort in interpersonal or intrapersonal conflicts. Programs designed to increase awareness of social influence to use drugs, and to reduce anxiety, enhance social and assertive skills, encourage resistance to substance use, and change attitudes and beliefs were reported to reduce smoking initiation up to 50% in l-year follow-up studies (Botvin et al. , 1990). Other re ports of substantial reduction in the prevalence of experimental smoking ranging from 42% to 75% cited the use of prevention approaches based on the social-learning theory and the problem-behavior theory. The intervention in children and adolescents at risk should start by enhancing the motivation of the child or adolescent and the caretakers to participate in a prevention program before the initiation of drug use. The objective of the intervention is to change the specific components of vulnerability within both the individual and the environment. Stable remission of a psychiatric disorder in the adolescent or in the caretaker, or in both, is a key to meaningful intervention. A hypothesis to be tested is that prevention for individuals at risk for PSUDs appears to command the same principles as those for intervention and a curriculum comparable to but less intense than that for treatment of PSUDs. Research has yet to report the results of a study that would aim at prevention intervention for children at risk for PSUDs and their caretakers. A control group of matched children and caretakers without a known family history of PSUDs and other risk factors for APSUDs may improve the scientific merit of such a study.

Suicide prevention: The efforts to prevent suicide have led to the development of primary, secondary, and tertiary prevention-intervention programs. Primary prevention programs are usually education- or curriculum-based courses. Secondary prevention of suicide focuses on identification and referral of at-risk youth, and the aim of tertiary prevention is to provide crisis intervention and treatment for suicide attempters. Education- or curriculum-based programs are very popular in schools, and their number increased dramatically in the 1980s and early 1990s. Their main goals, according to are (1) to raise awareness of the problem of adolescent suicide, (2) to train participants to identify adolescents at risk of suicide, and (3) to educate participants about community mental health resources and referral techniques. These programs are most commonly directed to high school students and their teachers and parent. The curriculum of a program commonly includes a review of the epidemiology of suicidal behavior, identification of "warning signs" of suicidal behavior, and discussion of depression. Referral systems and referral techniques, the importance of confidentiality, and problemsolving as well as stress-reduction skills are also addressed. Like programs for prevention of substance abuse, suicideprevention programs that operate mostly at school may never reach the adolescent high-risk population they are targeting. These adolescents are high school dropouts, teens with mental disorders, and others who are also at increased risk for suicide. It has been noted that many suicide victims are likely to have been absent from school before their suicidal act , as compared to students who regularly attend school and are not at high risk for suicidal behavior. The effectiveness of suicide-prevention programs has been evaluated and published so far only in two large controlled studies that included only self-report measures of knowledge and attitude variables. Students most at risk for suicide (those who reported on a previous attempt) found the programs upsetting, and even good attendance in the sessions did not

affect their attitude, nor was there a reduction in self-reported suicidal ideations or attempts. Spirito et al. (1988) indicated that the program improved knowledge only minimally and was ineffective in changing attitudes. Boys, who complete suicide more commonly than girls, reported changes in the undesirable direction, such as increased hopelessness and maladaptive coping responses following exposure to the suicide-prevention program.

Identification and referral for intervention or treatment of adolescents at risk for suicide is the focus of secondary prevention. Following a suicide or a suicide attempt by an adolescent, there is an increased risk for subsequent outbreaks of suicidal behavior by friends or adolescents from the same school who are at risk. Screening and referral for further treatment of students at risk for suicide following two suicides in the same high school proved to be effective. It is essential that mental health professionals, physicians, nurses, and teachers be trained for increased awareness to suicidal behavior and knowledge about the referral process and system. Professionals who work with youth at risk, such as runaways, juvenile delinquents, and psychiatric patients, must acquire diagnostic and intervention skills. Training programs for settings that host such populations have been developed and have been shown to be effective.

9. Treatment modalities of psychoactive substance use

The objectives of this chapter are to describe the reported treatment modalities/interventions in different settings of treatment for adolescents with psychoactive substance use disorders (PSUDs). The development of the current state of knowledge concerning relations among patient variables, treatment characteristics, and environmental factors is discussed in light of the treatment-related politics of the era. Consideration is given to selection and planning of individualized treatment menus and review of updated treatment strategies, with special attention to the most commonly diagnosed comorbid psychiatric disorders. Present and future suggestions to decrease attrition and treatment failure and to improve treatment efficacy and aftercare are illuminated.

(1) Treatment contributes significantly to patients' improvement. (2) Major improvements following substance abuse treatment are not limited to alcohol and drug use only; several other areas show moderate to major changes as well. (3) The extent of improvement is not clearly related to the treatment process. This study heralded the beginning of a new era in the research on treatment outcome and was followed by other studies that have employed rigorous research methodology and have investigated measurable treatment-outcome objectives. Also, subsequent treatment planning development has had to consider that polysubstance abuse is the rule rather than the exception, that a large proportion of patients with PSUDs are afflicted with a comorbid psychiatric disorder, and that the present classification of PSUDs recognizes these clinical characteristics as occurring along a gradient of severity.

Studies conducted among adults with PSUDs in the 1970s suggested that patient variables are predominantly more predictive of treatment outcome than are characteristics of treatment programs (Holden, 1987). This conclusion could be attributed mainly to the "black box" regimen used in most programs, which was characterized by a shotgun approach to treatment lacking dear differential components (type of facility, treatment philosophy, and length of treatment appeared to be the pivotal characteristics of the program, without patient-treatment matching). With the advancement of treatment knowledge, it has

become dearer that a substantial proportion of the explained variance is shared between patient-related and program-related variables. Also, patient-environment interactions are gaining recognition as important determinants that contribute to the maintenance of posttreatment objectives. The articles on the treatment of APSUDs reviewed herein contribute to the understanding of this issue; however, their methodological limitations must be noted again in order to forestall unconditional generalizing. Large cohort studies on the treatment of APSUDs emerged in the late 1970s. Rush (1979) conducted treatment-outcome research on a mixed population of adolescents and young adults in the Pennsylvania substance-abuse treatment system. His criteria for successful treatment outcome included complete abstinence in addition to an index score combining education, training, and employment, which he defined as Productivity. Most of the 2,940 adolescents included in this sample were enrolled in outpatient programs. Patient variables that were found to predict treatment completion as well as treatment success in these drug free outpatient clinics included enrollment in education and employment programs at the time of admission, the abuse of only one psychoactive substance (a nonopioid agent), being white, and being older when the substance of abuse was first used. Delinquency at admission was inversely correlated with successful treatment outcome at discharge. It is important to note that Rush (1979) included other important patient variables under the definition of delinquency used in the study, such as a longer continuous use of psychoactive substances and early initiation of use.

Legal aspects of admission and treatment: Facilities that treat minors have to follow some basic common rules with slight differences. Consent for admission to an inpatient unit must be provided by the caretaker and child (unless the child or adolescent has been committed). Any patient under 18 years of age who is married, a parent, or emancipated has the right to consent on his or her own behalf. Prior to rendering any care without parental consent, the facility must obtain a written acknowledgment from the minor stating that he or she was: (1) advised of the purpose and nature of such treatment services; (2) told that he or she may withdraw the signed acknowledgment at any time; (3) told that the facility will make attempts to convince the child of the need for involvement of other family members in treatment and the facility's preference for parental consent for the rendering of treatment services; and (4) advised that a medical/clinical record of his or her treatment services will be made and maintained by the facility. For overnight treatment, parental consent is always required unless the parents refuse, in which case the Family Court may substitute its consent. The provisions of various laws and regulations establish that it is usually, though not always, necessary to obtain parental consent to deliver substance-abuse treatment to minors. However, the release of information regarding such treatment is governed by the strict Federal rules regarding education and medical records. Regardless of state laws granting parents unilateral rights to consent to treatment, the Federal rules require both a parent's and a minor patient's prior consent to the release of medical record information that would identify the patient as an alcohol or drug abuser. Whenever state law does permit a minor to consent unilaterally to treatment, the Federal rules require that only the patient's consent need be obtained prior to the release of medical records information. Also, drug- or alcohol-abusing patients must be notified on admission of the protections afforded by the Federal rules . Methadone maintenance treatment programs for patients under 18

years of age need to consider some legal implications. According to the Food and Drug Administration regulation. A person under 18 is required to have had two documented attempts at short-term detoxification or drug-free treatment to be eligible for maintenance treatment.

Behavioral and cognitive therapy: Behavioral and cognitive (BC) therapy processes play a possible role in the etiology and pathogenesis of PSUDs. The drug dependence syndrome proposed by Edwards and Gross implicates both biological processes and learning. The rapid reinstatement of tolerance and withdrawal symptoms with resumption of substance abuse in afflicted individuals suggests a biological process, whereas the use of psychoactive agents to relieve withdrawal symptoms and craving in response to internal or external cues seems more consistent with a learning process composed of behavioral and cognitive elements . Pavlovian conditioning models of tolerance and relapse incidence based on animal as weIl as human data indicate that environmental cues present at the time of substance administration contribute to tolerance. Stimuli associated with drug-seeking behavior followed by substance abuse precede the onset of drug effects and establish anticipatory responses (cognitive, physiological, and emotional). These external cues, such as places, situations, people, and drug paraphernalia, can serve as "paired" conditioning stimuli. These stimuli can provoke conditioned responses even in the absence of the drug. Because these conditioned responses are often drug-opposite (or "drugcompensatory") in nature, they may often mimie the effects of withdrawal symptoms. Psychoactive substances may serve as positive reinforcement (e.g., euphoria) or negative reinforcement (e.g., relief of withdrawal symptoms or unpleasant affects), and these characteristics contribute to the maintenance of PSUDs. The recognition of the importance of the relations among the host, agent, and environment to the initiation and maintenance of PSUDs led to the development of experimental BC strategies for the treatment of PSUDs. Recent challenges to the effectiveness of various treatment modalities of PS UDs suggest that many of the modalities are modestly effective at best. The introduction of BC interventions has contributed to the available treatment strategies and was reported to reduce rates of "lapse" (the initial episode of psychoactive substance use following a period of recovery) and "relapse" (a process in which indicators or warning signs appear prior to the individual's actual resumption of psychoactive substance use. Cognitive therapy is an active, short-term, symptom-reduction oriented system of psychotherapy. The therapy is based on an information-processing model that aims toward correcting cognitive distortions and specific habitual errors in thinking (Beck & Rush, 1989). The overall strategy in the wide variety of specific therapeutic techniques available is a blend of verbal procedures and behavior modification techniques. The most common variants are rational emotive therapy, stress inoculation training, and BC therapy. According to cognitive therapy, early experiences in life result in underlying "schemas"-i.e., subconscious avenues-that assign meaning and organization to events. Thinking errors may result from such schemas and lead to stereotyped unreasonable ideas that overtake a person's approach to life. These ideas are termed "automatic thoughts." Automatic thoughts and faulty schemas lead to self-fulfilling prophecies. The purpose of therapy is to make patients aware of their automatic thoughts, schemas, and reasoning errors, then develop and exercise new ways of thinking. These strategies and techniques have been implemented in a variety of psychiatric disorders and

maladaptive behaviors including depression, anxiety, suicidal behavior, aggressive behavior, and PSUDs.

Emergency treatment of the substance abusing adolescent:

Overdose or severe intoxication: The first priority in emergency treatment of overdose or severe intoxication, particularly in the unconscious patient, is to follow the ABC mnemonic: Assure that the Airway is patent, that Breathing (ventilation) is adequate and regular, and that Circulation-related vital signs, such as pulse and blood pressure, are sufficient for life support. Consideration must be given to differential diagnoses for the comatose adolescent (e.g., hypoglycemia or ketoacidosis). A thorough physical examination is essential to identify signs and symptoms of trauma. Also, dues for the psychoactive substance(s) responsible for a toxic state and possible trauma may be found by meticulous assessment of the eyes (e.g., nystagmus), pupils (e.g., dilation), skin (e.g., needle marks), odors, and a search of the patient's clothing . The patient and accompanying parties may also provide the necessary information, following a comprehensive anamnestic history. It is noteworthy that street drugs are often misrepresented, and what the adolescent thinks he swallowed, injected, snorted, or smoked may be altogether different from what he actually took. A list of street names of drugs could help improve communication with the patient and identification of the abused agents by accompanying parties. Examples of substance-specific physical findings include these: Needle marks may be visible in the case of injection of heroin or stimulants, as may bullae usually secondary to barbiturate injection. Pustular dermatosis or rash around the mouth is a sign of a chronic solvent abuser, as are teIl tale smells of hydrocarbons and solvents on the patient's breath. Signs of paint on the hands or on the patient's face might be clues to the use of cans of spray paint for inhalation "bagging.". These tables do not list withdrawal symptoms. Laboratory work should include an immediate analysis of bodily fluids such as urine and blood, and of gastric contents if a gastric lavage has been done. Clinical personnel must take proper precautions against contamination by the patient's body fluids to prevent an HIV or hepatitis infection. Emergency treatment for overdose of unknown substances usually involves beginning an intravenous infusion once airway, breathing, and circulation are assessed. Dextrostick to assess for hypoglycemia caused by or mimicking alcohol intoxication is necessary. IV naloxone (Narcan), 2 mg, with repeat dose every half hour as necessary should be given if the patient is unconscious. This dose should be repeated every 1-2 hours after the patient regains consciousness if there is a response suggesting that a narcotic is present. Long-acting opiates, particularly methadone, will outlast the antagonist effects of single doses of Narcan. Cardiovascular support, artificial respiration, keeping the patient warm, and elevating the legs to avoid signs and symptoms of shock are part of the immediate management of an undefined overdose until laboratory testing can be obtained. Noncomatose adolescents who are intoxicated and who have not ingested tart or caustic materials (such as lye, acid, or hydrocarbons) may be administered syrup of ipecac, 30 ml, to induce vomltmg prior to being seen in the emergency room. Following emesis (or for patients for whom ipecac is contraindicated) and only after gastric contents have been aspirated for analysis, ingestion or gastric infusion of 50-100 g activated charcoal in 4-8 oz of water is suggested. Gastric lavage should be performed meticulously only after proteetion of the airway has been established and by trained emergency room personnel. If a patient vomits the first dose of activated charcoal, the dose can safely be

repeated. Multiple doses of charcoal are indicated for drugs that are recirculated enterohepatically, such as glutethimide. Most substances are weIl absorbed by activated charcoal, including volatile substances such as alcohol, kerosene, and other hydrocarbons; barbiturates; opioids; cocaine; and amphetamines.

Stimulants: Overdose of a stimulant (e.g., amphetamine) is a medical emergency because of the risk of seizures and cardiac arrhythmias. Antiarrhythmia drugs and intravenous benzodiazepine, carbamazepine, or phenytoin may be necessary. A review of physical examination and laboratory tests for trauma is necessary. Gastric lavage with acidic solution and acidification of the urine with ascorbic acid or ammonium chloride may enhance excretion of the amphetamines. A hypertensive crisis is treated with antihypertensives and a-adrenergic blockers. Haloperidol is used to manage psychotic reactions. Anxiety reactions may be managed with reassurance and occasionally small doses of a short-acting benzodiazepine such as lorazepam (Ativan).

Cocaine: The biphasic problems of acute cocaine overdose are notorious. The first phase of high stimulation may require "talking down" therapy and reassurance. The patient may experience panic,paranoia, agitation, and visual and tactile hallucinations ("coke bugs," "coke lights," or "trails"). This visual-tactile phenomenon is also associated with acute amphetamine overdose. Seizures may require intravenous diazepam or phenytoin. Arrhythmias may require propanolol, lidocaine, or phenytoin. The second phase of cocaine overdose may present with profound depression, suicidal ideation, drug-seeking, hypertension, respiratory depression, and shock. Intravenous fluids, reassurance, and prevention of further ingestion are part of the treatment. Amphetamines and cocaine may trigger psychotic episodes requiring psychiatric attention and may be treated with small doses· of neuroleptic such as haloperidol.

Alcohol: Alcohol-intoxicated patients should be questioned and evaluated for trauma, multiple chemical ingestions, and hypoglycemia. Alcohol is absorbed rapidly, and emesis, lavage, and activated charcoal are seldom useful alone unless other substances have been ingested. Blood alcohol levels of 0.4 mg% are usually considered toxic, but death may occur at lower doses. Correction of metabolic abnormalities and supportive care of respiration, circulation, and body temperature are necessary in the alcohol-unconscious adolescent until the patient regains consciousness. Alcohol is metabolized by a zero-order metabolism at a steady rate of somewhere between 10 and 100 m/liter per hour. The use of stimulants such as coffee to so-called "sober up" an intoxicated individual with alcohol is contraindicated. Tactile stimulation of a partially comatose patient can be of help. When the patient is conscious, forced liquids, exercise, and fresh air can help toward speeding return to full consciousness.

Opioids: Opioids are used intranasally or intravenously (IV). Overdose is common in the IV drug user. Doses of naloxone, 0.4-2 mg, in repeated doses every 1/2-1 hour depending on the degree of sedation, is the treatment of choice. The classic signs of opiate overdose are pinpoint pupils and hypoventilation. Cardiorespiratory support and intravenous infusion are often necessary. Pulmonary edema may require emergency hospital treatment. For long-acting opioids such as methadone or propoxyphene (Darvon), repeated doses of naloxone

may be necessary. Long term signs and symptoms of opioid withdrawal may be managed with oral clonidine or clonidine transdermal patches.

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VALUE ADDED COURSE

Adolescent substance abuse FMT VAC 04

4. List of Students Enrolled January 2018 – June- 2018

2nd Year MBBS Student		
Sl. No	**Name of the Student**	**Reg No**
1	VASIPALLI SUJITHA	U16MB391
2	VENKAT SRI RANGAN.P.B	U16MB392
3	VENKATACHALAPATHY .G	U16MB393
4	VIDHY ADHARAN.S	U16MB394
5	VIGNESH .D	U16MB395
6	VIGNESH .S	U16MB396
7	VIJAY .M	U16MB397
8	VINDUJA VIJAY	U16MB398
9	VIPIN SHARMA	U16MB399
10	VISALINI .S	U16MB400
11	SHACHI SHASTRI	U17MB371
12	SHATAVISHA MUKHERJEE	U17MB372
13	SHEDAM OMKAR MAHADEV	U17MB373
14	SHIVA VEERANNA HOUSR	U17MB374
15	SHIVAM ANMOL	U17MB375
16	SHIVANI BISWAL	U17MB376
17	SHREYA KUMARI	U17MB377
18	SHUBHAM KAMDE	U17MB378
19	SOTALA MANULIKHA CHOWDARI	U17MB379
20	SOUNDHARYA.K	U17MB380

RESOURCE PERSON **COORDINATOR**

VALUE ADDED COURSE

Adolescent substance abuse FMT VAC 04

4. List of Students Enrolled July 2017 – December- 2017

2nd Year MBBS Student		
Sl. No	**Name of the Student**	**Reg No**
1	SANDHYA	U16MB371
2	SARA .R	U16MB372
3	SARASWATI .N	U16MB373
4	SATHYA VIJAYENDRAN P.U	U16MB374
5	SHAIKH IMRAN SHAIKH NAJIR	U16MB375
6	SHIKHA SONI	U16MB376
7	SINGAMSETTY SANDEEP	U16MB377
8	SINGAMSETTY SRINIVAS	U16MB378
9	SNEHA	U16MB379
10	SNEHA SINGH	U16MB380
11	SRIRAM .S	U16MB381
12	SUBALAKSHMI .D	U16MB382
13	SUNITHA .A	U16MB383
14	SURENDAR RAJ .S	U16MB384
15	SUSMITHA .V	U16MB385
16	SWATI GUPTA	U16MB386
17	SWATI KUMARI	U16MB387
18	THAMARAIK KANNAN	U16MB388
19	THEEPTHI .T	U16MB389
20	UDDIP DATTA RAY	U16MB390

RESOURCE PERSON **COORDINATOR**

SRI LAKSHMI NARAYANA INSTITUE OF HIGHER EDUCATON AND RESEARCH

Annexure - IV

SPORTS INJURIES

MULTIPLE CHOICE QUESTIONS

Course Code: FMT 04

I. ANSWER ALL THE QUESTIONS

1. A synthetic depressant and analgesic is

a. LSD

b. Morphine

c. Pethidine

d. Heroin

2. **Alcoholics generally suffer from which vitamin deficiency**

a. Vit D

b. Vit E

c. Vit A

d. Vit K

3. Which of the following is hallucinogenic drug

a. Morphine

b. Cocaine

c. LSD

d. Heroine

4. **Anabolic steroids are the same as corticosteroids. Both drugs have the same dangerous side effects.**

a. True

b. False

5. **Most people who are treated for substance-use disorder need to stay in treatment for at least 3 months.**

a. True

b. False

Sri Lakshmi Narayana Institute of Medical Sciences

Affiliated to Bharath Institute of Higher Education & Research

(Deemed to be University under section 3 of the UGC Act 1956)

CERTIFICATE OF MERIT

This is to certify that _____ has actively participated in the Value Added Course on *Adolescent substance abuse* held during July 2017 – December 2017 Organized by Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry- 605 502, India.

Dr.S.N.Rathod

RESOURCE PERSON

Dr. Jayalakshmi

COORDINATOR

Student Feedback Form

Course Name: **Adolescent substance abuse**

Subject Code: **FMT VAC 04**

Name of Student: _____ Roll No.: _____

We are constantly looking to improve our classes and deliver the best training to you. Your evaluations, comments and suggestions will help us to improve our performance

Sl. NO	Particulars	1	2	3	4	5
1	Objective of the course is clear					
2	Course contents met with your expectations					
3	Lecturer sequence was well planned					
4	Lectures were clear and easy to understand					
5	Teaching aids were effective					
6	Instructors encourage interaction and were helpful					
7	The level of the course					
8	Overall rating of the course	1	2	3	4	5

**** Rating: 5 – Outstanding; 4 - Excellent; 3 – Good; 2– Satisfactory; 1 - Not-Satisfactory***

Suggestions if any:

Signature

Date:

Sri Lakshmi Narayana Institute of Medical Sciences
Affiliated to Bharath Institute of Higher Education & Research
(Deemed to be University under section 3 of the UGC Act 1956)

Annexure 1

Date: 2nd Jan 2018

From
Dr. S.N. Rathod,
Professor and Head,
Department of Forensic Medicine,
Sri Lakshmi Narayana Institute of Medical Sciences,
Bharath Institute of Higher Education and Research,
Chennai.

To
The Dean,
Sri Lakshmi Narayana Institute of Medical Sciences,
Bharath Institute of Higher Education and Research,
Chennai.

Sub: Permission to conduct value-added course: Adolescent substance abuse

Dear Sir,

With reference to the subject mentioned above, the department proposes to conduct a value-added course titled: **Adolescent substance abuse**

from January 2018 – June 2018. We solicit your kind permission for the same.

Kind Regards

Dr. S.N. Rathod

FOR THE USE OF DEANS OFFICE

Names of Committee members for evaluating the course:

The Dean:

The HOD:

The Expert:

The committee has discussed about the course and is approved.

Dean	Subject Expert	HOD
(Sign & Seal)	(Sign & Seal)	(Sign & Seal)

Sri Lakshmi Narayana Institute of Medical Sciences
Affiliated to Bharath Institute of Higher Education & Research
(Deemed to be University under section 3 of the UGC Act 1956)

Circular

3rd January 2018

Sub: Organising Value-added Course: Adolescent substance abuse

With reference to the above mentioned subject, it is to bring to your notice that Sri Lakshmi Narayana Institute of Medical Sciences, **Bharath Institute of Higher Education and Research**, is organizing **Adolescent substance abuse**. The course content and registration form is enclosed below."

The application must reach the institution along with all the necessary documents as mentioned. The hard copy of the application should be sent to the institution by registered/ speed post only so as to reach on or before January 17th 2018. Applications received after the mentioned date shall not be entertained under any circumstances.

Dean

Encl: Copy of Course content and Registration form.

Annexure 2 – Course Proposal

Course Title: Adolescent substance abuse

Course Objective: 1. Terminology and classification

2. Etiology and pathogenesis of adolescent substance abuse
3. Epidemiology of adolescent substance use and psychoactive substance use disorders.
4. Dual diagnosis: Psychoactive substance abuse and psychiatric comorbidity
5. Adolescent substance use and psychoactive substance use: relation to suicidal behavior
6. Maternal and infancy addiction: adolescent mothers and their offspring
7. HIV/AIDS and psychoactive substance use in adolescents
8. prevention of psychoactive substance use disorders and suicide
9. Treatment modalities of psychoactive substance use

Course Outcome: On successful completion of the course the students will be able diagnose and manage adolescent substance and psychoactive substance abuse

Course Audience: 2nd year MBBS student

Course Coordinator: Dr. Jayalakshmi

Course Faculties with Qualification and Designation:

1. Dr. S.Prasanth Kumaran MBBS, MD (Forensic Medicine),
Assistant Professor

Course Curriculum/Topics with schedule (Min of 30 hours)

S.No	Date	Topic	Time	Hours
1	14-01- 18	Terminology and classification	2 pm to 5 pm	3
2	28-01- 18	Etiology and pathogenesis of adolescent substance abuse	2 pm to 5 pm	3
3	11-02- 18	Epidemiology of adolescent substance use and psychoactive substance use disorders	2 pm to 5 pm	3
4	25-02- 18	Dualdiagnosis:Psychoactive	2 pm to 5 pm	3

		substance abuse and psychiatric comorbidity		
5	08-03- 18	Adolescent substance use and psychoactive substance use: relation to suicidal behavior	2 pm to 5 pm	3
6	22-03- 18	Maternal and infancy addiction: adolescent mothers and their offspring	2 pm to 5 pm	3
7	13-04- 18	HIV/AIDS and psychoactive substance use in adolescents	2 pm to 5 pm	3
8	27-04-18	prevention of psychoactive substance use disorders and suicide	2 pm to 5 pm	3
9	24-05-18	Treatment modalities of psychoactive substance use	2 pm to 5 pm	3
10	08-06-18	Treatment modalities of psychoactive substance use	2 pm to 5 pm	3
			Total Hours	30

REFERENCE BOOKS: (Minimum 2)

1. Adolescent substance abuse- a comprehensive guide to theory and practice

2. Handbook of adolescent substance abuse

Annexure 3

Bharath Institute of Higher Education and Research

Sri Lakshmi Narayana Institute of Medical Sciences,

Participant list of Value added course: **Adolescent substance abuse on January 2018 – June 2018**

Sl.No	Reg.No	Name of the candidate	Signature
1.	U16MB391	VASIPALLI SUJITHA	
2.	U16MB392	VENKAT SRI RANGAN.P.B	
3.	U16MB393	VENKATACHALAPATHY .G	
4.	U16MB394	VIDHY ADHARAN.S	
5.	U16MB395	VIGNESH .D	
6.	U16MB396	VIGNESH .S	
7.	U16MB397	VIJAY .M	
8.	U16MB398	VINDUJA VIJAY	
9.	U16MB399	VIPIN SHARMA	
10.	U16MB400	VISALINI .S	
11.	U17MB371	SHACHI SHASTRI	
12.	U17MB372	SHATAVISHA MUKHERJEE	
13.	U17MB373	SHEDAM OMKAR MAHADEV	
14.	U17MB374	SHIVA VEERANNA HOUSR	
15.	U17MB375	SHIVAM ANMOL	
16.	U17MB376	SHIVANI BISWAL	
17.	U17MB377	SHREYA KUMARI	
18.	U17MB378	SHUBHAM KAMDE	
19.	U17MB379	SOTALA MANULIKHA CHOWDARI	

20.	U17MB380	SOUNDHARYA.K	

Annexure 4

Course/Training Feedback Form

Course: Adolescent substance abuse
Date: January 2018– June 2018
Name:
Reg NO.
Department: Forensic medicine and toxicology

Q 1: Please rate your overall satisfaction with the format of the course:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 2: Please rate course notes:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 3: The lecture sequence was well planned

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 4: The lectures were clear and easy to understand

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 5: Please rate the quality of pre-course administration and information:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 6: Any other suggestions:

Comments:

Thank you for taking the time to complete this survey, your comments are much appreciated.

***OPTIONAL Section*:** Name _____
Signature _____ Date _____

Annexure 5

Date: 09-06-2018

From
Dr. S. N. Rathod
Forensic Medicine & Toxicology
Sri Lakshmi Narayana Institute of Medical Sciences
Bharath Institute of Higher Education and Research,
Chennai.

Through Proper Channel

To
The Dean,
Sri Lakshmi Narayana Institute of Medical Sciences
Bharath Institute of Higher Education and Research,
Chennai.

Sub: Completion of value-added course: Adolescent substance abuse

Dear Sir,

With reference to the subject mentioned above, the department has conducted the value-added course titled **Adolescent substance abuse** from January 2018– June 2018. We solicit your kind action to send certificates for the participants, that is attached with this letter. Also, I am attaching the photographs captured during the conduct of the course.

Kind Regards

Dr. Jayalakshmi

Dr. S.N. Rathod

Encl: Certificates

Photographs

Annexure 6 - SAMPLE CERTIFICATE TO BE ATTACHED

Annexure 1

Date: 2nd July 2017

From
Dr. S.N. Rathod,
Professor and Head,
Department of Forensic Medicine,
Sri Lakshmi Narayana Institute of Medical Sciences,
Bharath Institute of Higher Education and Research,
Chennai.

To
The Dean,
Sri Lakshmi Narayana Institute of Medical Sciences,
Bharath Institute of Higher Education and Research,
Chennai.

Sub: Permission to conduct value-added course: Adolescent substance abuse

Dear Sir,

With reference to the subject mentioned above, the department proposes to conduct a value-added course titled: **Adolescent substance abuse** from July 2017 – December 2017. We solicit your kind permission for the same.

Kind Regards

Dr. S.N. Rathod

FOR THE USE OF DEANS OFFICE

Names of Committee members for evaluating the course:

The Dean:

The HOD:

The Expert:

The committee has discussed about the course and is approved.

Dean	Subject Expert	HOD
(Sign & Seal)	(Sign & Seal)	(Sign & Seal)

Sri Lakshmi Narayana Institute of Medical Sciences
Affiliated to Bharath Institute of Higher Education & Research
(Deemed to be University under section 3 of the UGC Act 1956)

Circular

3rd July 2017

Sub: Organising Value-added Course: Adolescent substance abuse

With reference to the above mentioned subject, it is to bring to your notice that Sri Lakshmi Narayana Institute of Medical Sciences, **Bharath Institute of Higher Education and Research**, is organizing **Adolescent substance abuse**. The course content and registration form is enclosed below."

The application must reach the institution along with all the necessary documents as mentioned. The hard copy of the application should be sent to the institution by registered/ speed post only so as to reach on or before July 17th 2017. Applications received after the mentioned date shall not be entertained under any circumstances.

Dean

Encl: Copy of Course content and Registration form.

Annexure 2 – Course Proposal

Course Title: Sports injuries

Course Objective: 1. Terminology and classification

2. Etiology and pathogenesis of adolescent substance abuse
3. Epidemiology of adolescent substance use and psychoactive substance use disorders.
4. Dual diagnosis: Psychoactive substance abuse and psychiatric comorbidity
5. Adolescent substance use and psychoactive substance use: relation to suicidal behavior
6. Maternal and infancy addiction: adolescent mothers and their offspring
7. HIV/AIDS and psychoactive substance use in adolescents
8. prevention of psychoactive substance use disorders and suicide
9. Treatment modalities of psychoactive substance use

Course Outcome: On successful completion of the course the students will be able diagnose and manage adolescent substance and psychoactive substance abuse

Course Audience: 2nd year MBBS student

Course Coordinator: Dr. Jayalakshmi

Course Faculties with Qualification and Designation:

1. Dr. S.Prasanth Kumaran MBBS, MD (Forensic Medicine),
Assistant Professor

Course Curriculum/Topics with schedule (Min of 30 hours)

S.No	Date	Topic	Time	Hours
1	14-07- 17	Terminology and classification	2 pm to 5 pm	3
2	28-07- 17	Etiology and pathogenesis of adolescent substance abuse	2 pm to 5 pm	3
3	11-08- 17	Epidemiology of adolescent substance use and psychoactive substance use disorders	2 pm to 5 pm	3
4	25-08- 17	Dualdiagnosis:Psychoactive	2 pm to 5 pm	3

		substance abuse and psychiatric comorbidity		
5	08-09- 17	Adolescent substance use and psychoactive substance use: relation to suicidal behavior	2 pm to 5 pm	3
6	22-09- 17	Maternal and infancy addiction: adolescent mothers and their offspring	2 pm to 5 pm	3
7	13-10- 17	HIV/AIDS and psychoactive substance use in adolescents	2 pm to 5 pm	3
8	27-10-17	prevention of psychoactive substance use disorders and suicide	2 pm to 5 pm	3
9	24-11-17	Treatment modalities of psychoactive substance use	2 pm to 5 pm	3
10	08-12-17	Treatment modalities of psychoactive substance use	2 pm to 5 pm	3
			Total Hours	30

REFERENCE BOOKS: (Minimum 2)

1. Adolescent substance abuse- a comprehensive guide to theory and practice

2. Handbook of adolescent substance abuse

Annexure 3

Bharath Institute of Higher Education and Research

Sri Lakshmi Narayana Institute of Medical Sciences,

Participant list of Value added course: **Adolescent substance abuse on July 2017 – Dec 2017**

Sl.No	Reg.No	Name of the candidate	Signature
1.	U16MB371	SANDHYA	
2.	U16MB372	SARA .R	
3.	U16MB373	SARASWATI .N	
4.	U16MB374	SATHYA VIJAYENDRAN P.U	
5.	U16MB375	SHAIKH IMRAN SHAIKH NAJIR	
6.	U16MB376	SHIKHA SONI	
7.	U16MB377	SINGAMSETTY SANDEEP	
8.	U16MB378	SINGAMSETTY SRINIVAS	
9.	U16MB379	SNEHA	
10.	U16MB380	SNEHA SINGH	
11.	U16MB381	SRIRAM .S	
12.	U16MB382	SUBALAKSHMI .D	
13.	U16MB383	SUNITHA .A	
14.	U16MB384	SURENDAR RAJ .S	
15.	U16MB385	SUSMITHA .V	
16.	U16MB386	SWATI GUPTA	
17.	U16MB387	SWATI KUMARI	
18.	U16MB388	THAMARAIK KANNAN	
19.	U16MB389	THEEPTHI .T	

20.	U16MB390	UDDIP DATTA RAY	

Annexure 4

Course/Training Feedback Form

Course: Adolescent substance abuse
Date: July 2017– Dec 2017
Name:
Reg NO.
Department: Forensic medicine and toxicology

Q 1: Please rate your overall satisfaction with the format of the course:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 2: Please rate course notes:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 3: The lecture sequence was well planned

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 4: The lectures were clear and easy to understand

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 5: Please rate the quality of pre-course administration and information:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 6: Any other suggestions:

Comments:

Thank you for taking the time to complete this survey, your comments are much appreciated.

***OPTIONAL Section*:** Name _____
Signature _____ Date _____

Annexure 5

Date: 12-12-2017

From
Dr. S. N. Rathod
Forensic Medicine & Toxicology
Sri Lakshmi Narayana Institute of Medical Sciences
Bharath Institute of Higher Education and Research,
Chennai.

Through Proper Channel

To
The Dean,
Sri Lakshmi Narayana Institute of Medical Sciences
Bharath Institute of Higher Education and Research,
Chennai.

Sub: Completion of value-added course: Adolescent substance abuse

Dear Sir,

With reference to the subject mentioned above, the department has conducted the value-added course titled **Adolescent substance abuse** on July 2017– Dec 2017. We solicit your kind action to send certificates for the participants, that is attached with this letter. Also, I am attaching the photographs captured during the conduct of the course.

Kind Regards

Dr. Jayalakshmi

Dr. S.N. Rathod

Encl: Certificates

Photographs

Annexure 6 - SAMPLE CERTIFICATE TO BE ATTACHED