

REVIEW ARTICLE

Children of persons with alcohol dependence syndrome: risks and resilience, theories and interventions

Abstract

Children of persons with alcohol dependence syndrome (ADS) are susceptible to develop various psychosocial problems and carry them into their later life. They are at-risk group to develop alcohol and other drug use-related complications in their life. Studies have reported that despite adversities in their life, a few children grew into competent adults. These children are observed to have resilience, which in other hand significantly influence the overall development of any given person. Current paper shed light on theories, vulnerability, resilience, and available intervention packages related to children of parents with ADS.

Keywords: Susceptibility. Competency. Development.

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Introduction

Alcohol use has been recognised as a key risk factor for health, social, and economic problems in the communities. It is measured as fifth leading global risks for burden of disease by disability-adjusted life years (DALYs).[1] It is estimated that 20-30% of medical health problems, road traffic accidents, suicide and other deliberate injuries are owing to alcohol use. About four per cent of the global disease burden across the world was due to alcohol.[2]

In India, alcohol is traditionally prohibited and considered to be a 'dry' culture. However, use of alcohol in some form is always present in the country. Prevalence of alcohol consumption in India was reported to be 20-30%, and ten per cent among them were dependents.[3-5] Recently, National Family Health Survey[6] reported that one fourth of male population consumes alcohol in India.

Children of persons with alcohol dependence syndrome (ADS) are at risk to use substances, develop psychiatric disorders, experience neglect from the family, and have cognitive and academic problems.[7-12] Most often, children behaviours are influenced by the family members.[13] Family history of alcohol dependence was present among half (59%) of the college students who were apparently using alcohol.[14]

Substance problems run in the families through several pathways such as genetic,[15,16] behavioural and cognitive processes,[17,18] and problematic family environment.[19]

Risk or vulnerability

Risk factors are those characteristics which are present in a group of children, with a higher chance of developing an undesirable outcome. [20] Adolescent children who have tendency to take more risks [21] and sensation seeking are found to be positively correlated with higher levels of alcohol and other drug use. [22] Studies conducted with children of persons with ADS found that children are at-risk to develop alcohol and other drug use-related complications as a result of heredity and environment factors. [23,24] Parental approval of alcohol use escalates the likelihood of high-risk drinking among children. [25]

Those children are found to be more vulnerable to mental health disorders and, general and specific health problems.[26] Children grown up in this environment experience family conflict,[27] negative life events,[28] and, low family cohesion and poor family organisation.[29] Family and personal strengths of persons living in these families found to be inadequate.[30] Parents with ADS reported to have poor parenting skills, poor self-regulation,

and behaviour problems, which negatively influence the development of social competencies in their offspring.[31] Children of persons with ADS showed greater difficulties in neuro-developmental aspects[32] and behaviour problems.[30,33,34] Children of persons with alcohol and drug use displayed higher rates externalising disorders such as attention deficit hyperactivity disorder (ADHD), conduct and oppositional defiant disorders, and internalising behaviours such as depression and anxiety.[12,19,32,35-38]

Resilience

At the end of 20th century, researchers' perspective had begun to change. Longitudinal studies which tracked individuals from childhood to adulthood have revealed that only a minority may develop emotional and behavioural problems even after they are exposed to multiple stressors. Their findings directed researchers to consider the phenomenon of resilience, which is dynamic in nature and brings positive adaptation even in the context of adverse life situations.[39] Benard[40] attributed resilience as social competence in order to elicit positive responses and have positive relationships with others, problem solving skills, having self-control and resourcefulness in seeking help from others, autonomy in terms of having ability to have own identify, and purpose in life.

The Kauai Longitudinal Study[41-43] explored the impact of bio-psycho-social risk factors and protective factors on children at-risk in their developmental course. The study identified three clusters protective factors: (a) Protective factors within the individual- resilient children acquired positive characteristics such as activeness, affectionate, cuddly, good-natured, and easy to deal with, agreeable, cheerful, friendly, responsive, sociable, practical problem-solving skills, sense of pride, altruistic, self-confidence, and realistic future plans. (b) Protective factors in the family- presence of at least one competent and trustworthy person in the family such as grandparents, older siblings, aunts, and uncles. The religious beliefs of families were also provided some stability and meaning in their lives. (c) Protective factors in the community- resilient children received emotional support and help during crisis situation from the elders and peer in their community. This study found that one-third of the highrisk children become competent adults due to hard work they invested, loved well by others, played well, and expected well.

Children of persons with ADS having individual factors such as self-esteem, regular exercise, and better school bonding,[44-47] family factors such as family cohesion, adaptability, and child-mother attachment, and community factors such as social trust, social responsibility, and religiosity were found to have lower levels of behavioural problems.[48,49]

Theories

Social learning theory

It is based on the work of Albert Bandura.[50] Children learn to behave through both instruction as well as observation. Consequences of their actions and the responses of people reinforce and modify children behaviours. Children learn to behave through observation and social interaction than verbal instruction. He stressed on self-efficacy, defined as confidence in one's abilities to show appropriate behaviours. It has contributed in the process of developing life skill and social skill programmes.

Problem-behaviour theory

Developed by Jessor, [51] it believes that children behaviours (including risk behaviours) are the product of interactions between individuals and their environment. This theory is concerned with the relationships among three interrelated psychosocial variables (personality system, perceived environmental system, and behavioural system). The personality system includes "attitudes, beliefs, expectations, values and orientations toward self and society". Similar to Bandura, the behavioural system is usually described as a set of socially unacceptable behaviours (the use of alcohol, tobacco, and other drugs, sexual behaviour by persons below a certain age, delinquency and so). Each psychosocial system contains variables that act as instigators or controls on problem behaviour.

Social influence theory

It recognises that children and adolescents are under pressure to engage in risk behaviours (tobacco, alcohol). Social influence includes "peer", "parents' model", "media". Social influence programme anticipates these pressures and equip children with skills to resist them in prior to they are exposed.

Cognitive problem-solving theory

This model of primary prevention theorises that teaching interpersonal cognitive problem-solving skills to children during childhood mitigate and prevent behavioural problems. This model emphasised on competence building among individuals.

Resilience and risk theory

This theory argues that there are internal and external factors that protect against the social stressors, poverty, anxiety, or abuse. If a child has strong protective factors, he/she can resist the unhealthy behaviours that often result from these stressors or risks. Resilience and risk theory provides an important part of a foundation for a life skills approach.

Screening tools

Identification of these children requires active screening using either the Children of Alcoholics Screening Test (CAST)[52,53] or adapting the CAGE[54] questionnaire.

- Do you think your mom/dad needs to cut down on their alcohol use?
- Does your mom/dad get annoyed at comments from other people about their drinking?
- Does your mom/dad ever feel guilty about their drinking?
- Does your mom/dad ever take a drink early in the morning as an eye-opener?

Intervention programmes

Several programmes have been developed to assist children of persons with ADS. In general a programme may focus primarily on either prevention or intervention, but majority of the programmes focus on both elements. Primary prevention focuses on children at-risk due to their genetic vulnerability or environmental factors or both. Secondary prevention targets children who are already having behavioural problems which predict later alcohol and other drug use. Finally, tertiary prevention is to help children who are already having alcohol and other drug use-related problems and to decrease the associated complications. Few primary prevention models such as curbing the availability, increasing the legal age of drinking, increasing the price of alcohol beverages, and decreasing the selling hours help systematically to reduce alcohol usage among people in the country. A study in an Indian city showed alarming figures in these parametres in relation to school going children.[55]

Al-teen is an example of a community-based self-help programme for children of persons with ADS based on the 12-step approach of Alcoholic Anonymous. Al-teen generally meets in public settings, such as churches or community centres.

Schools and colleges are logical settings for school-based interventions because of children availability. There are some specific programmes exclusively for children of parents with ADS. A school-based support group intervention conducted for children of persons with ADS resulted in improved knowledge, coping strategies, and better social integration for female children.[56]

Stress management and alcohol awareness program (SMAAP)

SMAAP is a competency-building intervention programme developed by Roosa and colleagues.[57] It is a school-based programme conducted for children of persons with ADS for eight weeks duration. The programme emphasised on building self-esteem, providing alcohol-related education, and teaching emotions and problem-focused coping strategies. Short *et al.*[58] found increase in knowledge, social support, and emotion-focused coping behaviour among school children compared to non-participants. In addition, teachers observed increased problem solving and social competence among children.

Students together and resourceful (STAR)

STAR programme is designed for the students. Main objectives of the programme are to increase social competence and to provide accurate information on alcohol use and its complications on individuals and family among children. Group exercises are directed to help students recognise and express their feelings and to practice specific skills, such as problem-solving, decision making, stress management, and alcohol refusal skills.

A randomised study was conducted to compare the programme with non-participant children of parents with ADS. Results indicated that children were successful in developing stronger social relationships, autonomy, and an improved self-concept. Furthermore, children stated increase in number of friends and perceived social support.[59]

Strengthening families program (SFP):[60]

It is developed by Kumpfer and Marsh (1983). This programme provides training for parents, children, and families. Sessions

for parents focus on education about alcohol and other drugs, communication skills, and utilisation of reinforcement and other techniques to guide children's behaviour. The children's social skills programme includes sessions on emotions, anger management, problem-solving, communication, peer resistance, and alcohol and other drugs information. Typically the programme is a fourteen-session package conducted in churches or community centees, two to three hours in a week. In a randomised controlled trial the programme was found to reduce risk factors, increase resilience (competence when under stress), and decrease alcohol and other drugs use among children of alcohol and other drugs abusers.[61]

Children having opportunities in courage, esteem and success (CHOICES):[62]

It is a school-based programme developed for third and fourth grade students. This programme is focused on coping strategies, emotions identification, and family. Overall the programme has 11 sessions, weekly one hour session with individuals and 30 minutes session with mentors. Horn and Kolba[63] evaluated the efficacy of the CHOICES programme and found improvement in self-esteem, isolation, loneliness, coping strategies, and knowledge on programme content among children who participated in the study.

Teen club program[64]

It is a two-year programme of 90 minutes' meeting every week. It is a group programme for female teenagers with drug involved families and, lack of family and social support. The programme focused on problem-solving, health education, social behaviour, home visits for crisis intervention.

Focus on families program

It is a 16 weeks intervention (biweekly 90 minutes' sessions) for families of person with methadone maintenance. They used home-based case management strategy in this programme. Content of the programme consists relapse prevention, stabilization, and improvement of family management practices. A study evaluating the efficacy of this programme found improvement in parenting skills, decrease in parental drug use, and involvement with deviant peers, better family management, and positive changes in children's behaviour or attitudes.[65]

Friends in need program[66]

Emphasised teaching, strategies, and skills for coping with aversive environment where they live. They found improvement in behaviours, self-worth, and decreased physical aggression for the intervention group.

Life skills intervention

Life skills intervention is considered to be the single most effective strategy for reducing risky behaviours among children. The World Health Organization (WHO) advocated universal life skills education programme for every school across the world and recommended to consider it in both formal and non-formal education system.[67] Individuals may react to the similar drug in different ways on different occasions. Life skills-based education for drug use prevention focus on two factors which are enhancing personal and interpersonal skills in socially accepted way. Life skills-based

education for drug use prevention contributes to the primary goals of drug education for children such as, to delay the onset of use; to stop harmful use; to increase their awareness of the consequences of drug use; and to enhance decision-making ability for healthier lifestyle choices. Giving importance to cultural diversity, in some communities' no-use may be a primary goal.

Conclusion

Research studies across the world suggest several appropriate of intervention and prevention programme components. Including basic information on harmful consequences of substance use in school curriculum is very much required. Research studies in recent past revealed that peer led education found to be effective in preventing and delaying initiation of alcohol and other drug use. Family intervention focused on parenting skills training help in empowering parents with suitable parenting skills in order to reduce the risk among their children. Comprehensive community programmes which focus social norms with regard to substance use are another important underutilised area. Preventive programmes need to include information and education, skill building in terms of coping and social competence, social support, create environment for safe expression of feelings, and healthy activities.

References

- World Health Organization (WHO). Global health risks: Mortality and burden of disease attributable to selected major risks. Geneva, Switzerland: 2009.
- World Health Organization (WHO). The world health report 2002: Reducing risks, promoting healthy life. Geneva, Switzerland: 2002.
- Dube KC, Kumar A, Kumar N, Gupta SP. Prevalence and pattern of drug use amongst college students. Acta Psychiat Scand. 1978:57:336-46.
- Lal B, Singh G. Drug abuse in Punjab. Br J Addict Alcohol Other Drugs. 1979;74:411-27.
- Ghulam R, Rahman I, Naqi S, Gupta SR. An epidemiological study of drug abuse in urban population of Madhya Pradesh. Indian J Psychiatry. 1996;38:160-5.
- Ministry of Health and Family Welfare. National Family Health Survey (NFHS III). New Delhi: Government of India; 2015-16.
- Alterman AI, Bedrick J, Cacciola JS, Rutherford MJ, Searles JS, McKay JR, et al. Personality pathology and drinking in young men at high and low familial risk for alcoholism. J Stud Alcohol. 1998;59:495-502.
- Christensen HB, Bilenberg N. Behavioural and emotional problems in children of alcoholic mothers and fathers. Eur Child Adolesc Psychiatry. 2000;9:219-26.
- Cuijpers P, Langendoen Y, Bijl RV. Psychiatric disorders in adult children of problem drinkers: Prevalence, first onset and comparison with other risk factors. Addiction. 1999;94:1489-98.
- Jacob T. Adult children of alcoholics: Drinking, psychiatric and psychosocial status. Psychol Addict Behav. 1999;13:3-21.
- Hazarika M, Bhagabati D. The role of personality correlates in the pathogenesis of alcoholism: An intergenerational study among alcohol dependent and nondependent population. Dysphrenia. 2014;5:32-48.
- Raj H, Kumar K, Sinha VK, Dogra R. A comparative study on behavioural problems in children of alcohol dependent parents. Dysphrenia. 2012;3:137-43.
- Tsering D, Pal R. Role of family and peers in initiation and continuation of substance use. Indian J Psychol Med. 2009;31:30-4.
- 14. Gupta S, Sarpal SS, Kumar D, Kaur T, Arora S. Prevalence,

- pattern and familial effects of substance use among the male college students-a north Indian study. J Clin Diagnostic Res. 2013;7:1632-6.
- Wiers RW. Bad expectations? Cognitive and neuropsychological indicators of enhanced risk for alcoholism. Delft, NL: Eburon P & L; 1998.
- Schuckit MA, Smith TL. An 8-year follow-up of 450 sons of alcoholic and control subjects. Arch Gen Psychiatry. 1996;53:202-10.
- Petratis J, Flay BR, Miller TQ. Reviewing theories of adolescent substance use: Organizing pieces in the puzzle. Psychol Bull. 1995;117:67-86.
- Gifford E, Humphreys K. The psychological science of addiction. Addiction. 2007;102:352-61.
- Velleman R, Templeton L. Understanding and modifying the impact of parental substance misuse on children. Adv Psychiatr Treat. 2007;13:79-89.
- Masten A. Resilience in individual development: Successful adaptation despite risk and adversity. In: Wang MC, Gordon EW, editors. Educational resilience in inner-city America: Challenges and prospects. Hillsdale, NY: Lawrence Erlbaum; 1994:3-25.
- Danish S. Going for the goal: A life skills program for adolescents. In: Albee G, Gullotta T, editors. Issues in children's and families' lives: Primary prevention works. Thousand Oaks, CA: Sage Publications; 1997:291-312.
- Publications; 1997:291-312.

 22. Dever BV, Schulenberg JE, Dworkin JB, O'Malley PM, Kloska DD, Bachman JG. Predicting risk-taking with and without substance use: The effects of parental monitoring, school bonding, and sports participation. Prev Sci. 2012;13:605-15.
- 23. Kumpfer KL. Outcome measures of interventions in the study of children of substance-abusing parents. Pediatrics.1999;10:1128-44.
- Schuckit MA, Smith TL, Radziminski S, Heyneman EK. Behavioral symptoms and psychiatric diagnoses among 162 children in nonalcoholic or alcoholic families. Am J Psychiatry. 2000;157:1881-3.
- Abar CC. Examining the relationship between parenting types and patterns of student alcohol-related behavior during the transition to college. Psychol Addict Behav. 2012;26:20-9.
- Woodside M, Coughey K, Cohen R. Medical costs of children of alcoholics--pay now or pay later. J Subst Abuse. 1993;5:281-7.
- Schroeder VM, Kelley ML. Associations between family environment, parenting practices, and executive functioning of children with and without ADHD. J Child Fam Stud. 2009;18:227-35.
- Hussong AM, Bauer DJ, Huang W, Chassin L, Sher KJ, Zucker RA. Characterizing the life stressors of children of alcoholic parents. J Fam Psychol. 2008;22:819-32.
- Bijttebier P, Goethals E. Parental drinking as a risk factor for children's maladjustment: The mediating role of family environment. Psychol Addict Behav. 2006;20:126-30.
- Mylant M, Ide B, Cuevas E, Meehan M. Adolescent children of alcoholics: Vulnerable or resilient? J Am Psychiatr Nurses Assoc. 2002;8:57-64.
- Eiden RD, Colder C, Edwards EP, Leonard KE. A longitudinal study of social competence among children of alcoholic and nonalcoholic parents: Role of parental psychopathology, parental warmth, and self-regulation. Psychol Addict Behav. 2009;23:36-46.
- Raman V, Prasad S, Appaya MP. Children of men with alcohol dependence: Psychopathology, neurodevelopment and family environment. Indian J Psychiatry. 2010;52:360-6.
- Loukas A, Zucker RA, Fitzgerald HE, Krull JL. Developmental trajectories of disruptive behavior problems among sons of alcoholics: Effects of parent psychopathology, family conflict, and child undercontrol. J Abnorm Psychol. 2003;112:119-31.
- Loukas A, Piejak LA, Bingham CR, Fitzgerald HE, Zucker RA. Parental distress as a mediator of problem behaviors in sons of alcohol-involved families. Fam Relat. 2001;50:293-301.
- Christensen HB, Bilenberg N. Behavioural and emotional problems in children of alcoholic mothers and fathers. Eur Child Adolesc Psychiatry. 2000;9:219-26.
- Carle AC, Chassin L. Resilience in a community sample of children of alcoholics: Its prevalence and relation to internalizing

- symptomatology and positive affect. J Appl Dev Psychol. 2004;25:577-95.
- Serec M, Svab I, Kolšek M, Svab V, Moesgen D, Klein M. Health-related lifestyle, physical and mental health in children of alcoholic parents. Drug Alcohol Rev. 2012;31:861-70.
- Díaz R, Gual A, García M, Arnau J, Pascual F, Cañuelo B, et al. Children of alcoholics in Spain: From risk to pathology. Results from the ALFIL program. Soc Psychiatry Psychiatr Epidemiol. 2008;43:1-10.
- Luthar S. Resilience and vulnerability: Adaptation in the context of childhood adversities. New York: Cambridge University Press; 2003
- Benard B. Fostering resiliency in kids: Protective factors in the family, school, and community [Internet]. 1991 Aug [cited 2016 Mar 22]. Available from: http://crahd.phi.org/papers/ Fostering.pdf
- Werner EE, Smith RS. Vulnerable but invincible: A longitudinal study of resilient children and youth. New York: McGraw Hill; 1982.
- Werner EE, Smith RS. Overcoming the odds: High-risk children from birth to adulthood. Ithaca, NY: Cornell University Press; 1992
- Werner EE, Smith RS. Journeys from childhood to midlife: Risk, resilience and recovery. Ithaca, NY: Cornell University Press; 2001
- Terry-McElrath YM, O'Malley PM, Johnston LD. Exercise and substance use among American youth, 1991-2009. Am J Prev Med. 2011;40:530-40.
- Patrick ME, Schulenberg JE. Alcohol use and heavy episodic drinking prevalence and predictors among national samples of American eighth- and tenth-grade students. J Stud Alcohol Drugs. 2010;71:41-5.
- Schulenberg J, O'Malley PM, Bachman JG, Wadsworth KN, Johnston LD. Getting drunk and growing up: Trajectories of frequent binge drinking during the transition to young adulthood. J Stud Alcohol. 1996;57:289-304.
- 47. Bachman JG, O'Malley PM, Schulenberg JE, Johnston LD, Freedman-Doan P, Messersmith EE. The education–drug use connection: How successes and failures in school relate to adolescent smoking, drinking, drug use, and delinquency. New York: Lawrence Erlbaum Associates/Taylor & Francis; 2008.
- El-Sheikh M, Buckhalt JA. Parental problem drinking and children's adjustment: Attachment and family functioning as moderators and mediators of risk. J Fam Psychol. 2003;17:510-20.
- Wallace JM Jr, Brown TN, Bachman JG, LaVeist TA. The influence of race and religion on abstinence from alcohol, cigarettes and marijuana among adolescents. J Stud Alcohol. 2003;64:843-8.
- Bandura A. Social learning theory. Englewood Cliffs: NJ Prentice-Hall; 1977.
- Jessor R, Jessor SL. Problem behaviour and psychosocial development: A longitudinal study of youth. San Diego, CA: Academic Press; 1997.
- 52. Jones JW. The children of alcoholics screening test and test

- manual. Chicago, IL: Camelot Unlimited; 1993.
- Sheridan MJ. A psychometric assessment of the Children of Alcoholics Screening Test (CAST). J Stud Alcohol. 1995;56:156-60.
- 54. Ewing JA. Detecting alcoholism. The CAGE questionnaire. JAMA. 1984;252:1905-7.
- Bhagabati D, Das B, Das S. Pattern of alcohol consumption in underage population in an Indian city. Dysphrenia. 2013;4:36-41.
- Gance-Cleveland B, Mays MZ. School-based support groups for adolescents with a substance-abusing parent. J Am Psychiatr Nurses Assoc. 2008;14:297-309.
- Roosa MW, Gensheimer LK, Short JL, Ayers TS, Shell R. A preventive intervention for children in alcoholic families: Results of a pilot study. Fam Relat. 1989;38:295-300.
- Short JL, Roosa MW, Sandler IN, Ayers TS, Gensheimer LK, Braver SL, et al. Evaluation of a preventive intervention for a self-selected subpopulation of children. Am J Community Psychol. 1995;23:223-47.
- Emshoff JG. A preventive intervention with children of alcoholics. Prev Hum Services. 1990;71:225-53.
- SAMHSA Model Programs. Strengthening families program [Internet]. [cited 2016 Oct 10]. Available from: http://www.strengtheningfamiliesprogram.org/docs/StrengthFPsamhsa.pdf
- Kumpfer KL, Molgaard V, Spoth R. The strengthening families program for the prevention of delinquency and drug use. In: Peters RD, McCahon RJ, editors. Preventing childhood disorders: Substance abuse and delinquency. Newburg, CA: Sage Publications; 1996;241-67.
- Horn K, Kolbo JR. Using the cumulative strategies model for drug abuse prevention: A small group analysis of the CHOICES Program. Am J Health Stud. 2000;16:24-33.
- Horn K, Kolbo JR. Application of a cumulative strategies model for drug abuse prevention: Exploring choices for high risk children. J Drug Educ. 2000;30:291-312.
- Tuttle J, Campbell-Heider N, Bidwell-Cerone S, Richeson G, Collins S. Teen Club: Intervention for adolescent children of substance abusing parents: A study of five-year-options. Adolescent and Family Health. 2001;2:47.
- Catalano RF, Gainey RR, Fleming CB, Haggerty KP, Johnson NO. An experimental intervention with families of substance abusers: One-year follow-up of the focus on families project. Addiction. 1999;94:241-54.
- Dore MM, Nelson-Zlupko L, Kaufmann E. "Friends in need": Designing and implementing a psychoeducational group for school children from drug-involved families. Soc Work. 1999;44:179-90.
- World Health Organization (WHO). Life skills education in schools. Geneva, Switzerland: WHO, 1994.

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