RESILIENCE AS MEDIATOR FACTORS AMONG PEOPLE WITH NON SUBSTANCE USE DISORDER AND SUBSTANCE USE DISORDER

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Abstract

Objective: To find out resilience as protective factor among people with substance use disorder and non-substance use group.

Methods: This is a cross sectional study design, in which data was collected from Hayatabad Medical complex (HMC), Lady reading hospital (LRH) Khyber teaching hospital (KTH) and other rehab centers. Ethical approval was obtained from research ethical committee. Total (N=50) participants were selected through purposive sampling. Participants were divided into 2 groups, one group consisted of (n=25) drug addicted participants whereas, another group consisted of (n=25) non drug addicts. Data was measured on Cannon-Davidson scale and Drug screening test. For analysis of data t test was used to make comparison between two groups.

Results: In the present study the mean of drug abuse group (m=14.04) with p> =.05 values whereas non-drug abuse (m=31.96) on resilience scale. Results reveals a significant difference between drug abuse group (m=8.28) and non-drug abuse (m=.72) on p>=.05 level of confidence interval on drug screening test.

Conclusion: This study shows that individuals with higher resilience has less problems with substance use, on the other hand individuals with less resilience has more problems with substance use.

Key words: Resilience, Protective factors, Substance use disorders, Non substance use disorder.

INTRODUCTION

Acute and severe stress related mechanisms play an essential role in both the onset and the chronic, relapsing nature of addiction[1,2]. Stress is defined as the physiological and psychological process resulting from a challenge to homeostasis by any real or perceived demand on the body[3,4,5]. Stress often induces multisystem adaptations that occur in the brain and body and affect behavioral and social function. The resulting dynamic condition is a dysregulated physiological state maintained beyond the homeostatic range.

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This definition and conceptualization of stress was further developed to explain the chronic abuse of substances and comfort foods and has been studied in the context of behavioral addiction (i.e., pathological gambling)[6,7].
Persistent challenges to an organism through chronic substance use may ultimately lead to an altered set point across multiple systems. This hypothesis is consistent with evidence that suggests adaptations in brain reward and stress circuits, and local physiology (e.g., energy balance) can contribute to addictive processes. Cravings or urges, decreases in self-control, and a compulsive engagement in unhealthy behaviors each characterize patients with addiction[6,2,8.] Alternatively, a person's ability to successfully cope with high stress is reflected in adaptive physiological and psychological responses[9,10].

Responsivity ranges from psychological differences in the way individuals cope with stress to differences in neurochemical or neural circuitry[11]. Variability within the genetic makeup and quality of early-life experience, as well as interactions between the two, are known to contribute to differences in stress resilience[12].

Recent studies in resilient adults[13] have identified a range of psychosocial factors

associated with successful adaptation to stressful or traumatic events. For example, the ability to simultaneously experience both positive and negative emotions when confronted with a high-stress situation increases flexibility of thinking and problem solving and can buffer individuals from developing stress-induced adverse consequences [14,15]. Likewise, optimism has been associated with resilience to stress-related disorders, including alcohol use disorders[16,17].

Unlike personality characteristics associated with increased risk for substance use disorders (e.g., impulsivity, novelty seeking, and negative emotionality), positive emotionality, the tendency to experience positive mood frequently, was found to be associated with resilience to substance use in a large longitudinal study of public school students followed from late childhood through adolescence[18]. positive emotionality was found to buffer the effects of parent child conflict and of parental and peer substance use on adolescent substance use. The ability to focus attention on performing and completing tasks was identified as a protective factor against substance use[18]. The ability to focus attention might relate to the capacity to cope by planning and problem solving in times of stress, both types of coping styles characteristic of resilient individuals[19].

Resilience is defined by the ones ability to deal effectively with calamity[20]. It has been postulated as a multifaceted variable with individual's characteristics and environmental factors [20,21]. Studies have determined various significant traits of resilience such as, ego strength, hardiness, positive emotions, optimism, spirituality/faith, healthy coping skills, or cognitive reframing. Particular environmental factors such as strong role models, close and healthy family bonds, and approach to quality or supportive relationships have all been proven to nurture resilience[20,19].
A common psychological traumatic experiences cause substance use problems. In spite of the high risk associated with exposure to adversity or risk factors. There are few individuals developed healthy coping mechanism therefore they remain successful in many significant life aspects such as relationship or work, display the concept of resilience[17,22].

Why Resilience? because it involves a complex interplay of factors that influence people's decisions not to use drugs and their ability to put these into practice. Using theories developed in the field of Cognitive and Social Psychology. Resilience is discussed within the context of three interrelated theories. These theories are concerned with the thoughts that influence people's decisions and subsequently the factors that facilitate them in putting these decisions into practice. The three theories are:

- Schema theory[23,24,25]
- Self-regulation theory [26,27,28]
- Self-efficacy theory [29,30]

These theories are strongly interrelated and the salient points of each theory and demonstrates their relevance to explanations provided by the resilient people. There are a range of reasons why some people have decided that drugs are not for them. Schema theory suggests that all people have a set of categorical rules or a script that they use to organize their knowledge about a particular concept in order to interpret the world. New information is processed according to how it fits into these rules, which are also known as a schema. These schemas can be used to help people perceive, interpret and predict situations occurring in the social context in which they are based[23,24,25].

Self-efficacy theory describe people always do what they decide and want to do, so if they don't want to use drugs then they won't use them. In contrast to the examples above, people with effective or intact self-regulation have a strong sense of self-efficacy. Self-efficacy can be conceptualized as people's beliefs about them capabilities of putting their decisions about what they want to do into practice. It is proposed that strong self-efficacy enhances feelings of accomplishment and overall wellbeing in people[29,30].

Strong self-efficacy may be demonstrated in a social context through effective self-management behaviors such as assertiveness and functional problem solving skills. The previous findings suggest strong self-efficacy within the resilient young people that is demonstrated in the strategies that they utilize to refuse drugs. The people discussed a range of assertive responses to offers of drugs, conceptualized as being polite but firm 'I know you choose to do it, but I choose not to. Their assertive skills appear to be particularly tested when refusing persistent offers of drugs from friends.

Assertive skills appear to be an effective rational problem solving style. For example, the people take a decision regarding what strategy to utilize that involved weighing up and

minimizing the risk of any negative consequences their refusal may have (i.e. the potential to jeopardize friendships).

In addition, considering the impact of drug use on personal finances and current health conditions were further examples of a rational problem solving style. The outcome of remaining resilient to drugs is describe in terms of 'being happy to be the odd one out' and 'feeling like the bigger person for saying no'. in which individuals can be successful on two levels first they managed to refuse an offer of a drug, and second do not compromise their position within a friendship or relationship, for example. This provides support for the suggestion of strong self-efficacy resulting in feelings of wellbeing and mastery.

These three theories and how they relate to the current study's will find out more clarity and coherence of concepts. However, they are not mutually exclusive but rather are interrelated. The findings will suggest that people are resilient to the three processes which may run concurrently. They operationalize a schema in which they view drug use as harmful to themselves and therefore a behavior in which they do not want to engage, alongside which they have developed a set of resilience-focused goals. Which enhance a strong sense of self-efficacy to enable to put this decision not to use into practice. Within this context resilience would appear to be subject to both change and reinforcement depending on the social context in which y people are based. The three areas above complement each other and operate concurrently. Therefore, for resilience to drug use to be developed and maintained, all three issues need to be addressed i.e.an effective resilience to drugs schema, appropriate approach goals, strong self-efficacy.

Resilience characteristics are likely to reduce risks of developing substance use disorders, probably through adaptive emotional regulation, endure negative affect, actively taking support and healthy relationships. Till date studies are still very limited on the interaction between resilience attributes and exposure to childhood abuse on substance use problems. To our knowledge, data is available merely on one study in operation enduring freedom and operation Iraq freedom (OEF/OIF) on 497 veterans who exposed to combat trauma, and it has seen that high CDRISC scores were linked with less alcohol use issues[31.]

Hence, this study aims to focus on to explore people's views, attitudes and decisions making around drugs not using substance despite of exposed to risk factors, also a relationship between resilience characteristics and lifelong illegal use of drugs in individuals who have experienced risk factors.

A profile of why young people in the study are considered resilient to drug use. They are 'resilient' in terms of having had opportunities to use drugs and by the nature of the decisions they have made when faced with these opportunities. It will also explore the wider context in which they made their decisions about their use, in terms of their views about drugs and what they perceived to be the reasons why other people might choose to use them. The decision people make about their drug use will be explored underlying these decisions however, there will be views they hold about drugs and the why people use them explore people reasons for not using drugs. To identified a range of factors as having influenced their decision not to use. It can be fall into some categories, lifestyle aspirations and relationships, physical and psychological effects of drugs, related to the practicalities of being a user and sources of support/coping mechanisms. These will be considered as protective factors for substance use and future studies can pave the way to use these Strategies to deal with drug-related situations.

Hence, in order to address gaps in studies on resilience and substance use disorders, current study aimed to examine relationship between resilience traits and illegitimate drug use issues in a population of substance use and non-substance use. This Study hypothesized that higher resilience would be associated with less substance use complications.

Objective: To find out resilience as protective factor among people with substance use disorder and non-substance use group.

Hypothesis: There will be significantly low level of resilience among substance use than non-substance use.

METHODOLOGY

Sample: This study sample size consisted on total (N=50) participants. The study was collected in 6th months duration, from Individuals who came to different hospitals H.M.C, L.R.H and K.T.H. Individuals admitted to drug abuse training center (DATC) of different hospitals irrespective of their ages, types and pattern of SU.

Method: Researcher made use of cross-sectional study design. Participants divided into

two groups, non-substance users (NSU) were selected by Convenient sampling and substance users(SU) were selected by purposive sampling technique. Inclusion criteria based on male's non- substance user who have exposed to drugs but not taking it. Exclusion criteria based on individuals suffering with co-morbid dementia and mental retardation. Data were collected face to face. Measurements used for data collection were Drug abuse screening test(DAST) and Conner Davidson Resilience Scale. Data were analyzed by using Spss 21 verion. T test were used to make comparison between both groups.

Measures

1- **Connor-Davidson Resilience Scale** [32,33].

A scale of resilience is the self-report Connor-Davidson Resilience Scale (CDRISC), which measures resilience characteristics hardiness, tenacity, strong self-efficacy, emotional and cognitive control under pressure, adaptability, ability to bounce back, tolerance of negative affect, spiritual coping, and goal orientation[32,33]. Therefore, the current paper measured resilience traits based on the 10-item version of the CDRISC. Respondents rate it on 4 point scale from 0=not true to 4=true nearly all the time, each item minimum score is 0 and maximum score is 4. Based on the 10-item CDRISC score ranges from 0 to 40, which indicates that higher the scores, the more resilience is. Cut off score is 6.

2- **Drug Abuse Screening Test** [34,35,36].

Lifelong alcohol and illegal drugs use with the Identification of alcohol use disorder test is a self-report psychometrically validated Drug Abuse Screening Test (DAST)[34,35,36]. It has 0-10-point scale, where 0 means no problems reported, 10 means severe level problem, 7 is cutoff score. Higher score indicates increased severity of drugs. This scale assesses present and lifelong drug use patterns by applying the standard and modified versions of the DAST. To assess long-term use of drugs, this study changed the phrase "in the last year" to "in your life" in the DAST scale.

Procedure: An informed consent was sought from all participants of research. Participants were selected from different units of Drug addiction i.e. H.M.C, K.T.H, L.R.H, Dost foundation and other Rehabilitation center. The researcher used a cross-sectional study design in present study. Inclusion Criteria such as males non substance users who have exposed to drugs but not taking it. Patients admitted to DATC units of different hospitals irrespective of their ages, types and pattern of substance abuse. Exclusion Criteria such as Patients suffering with co morbid dementia and mental retardation. Participants were divided into 2 groups by convenient and purposive sampling, one group were consisted on n=25 non-substance use individuals and other group were consisted on n=25 individuals who were using substances. Resilience scale and drug abuse screening test were applied to all the participants of study. Comparison has made between two groups. Participants scored high on resilience scale revealed lowest risk of substance use as compared to those of the moderate and less resilience groups.

RESULTS

Table 1: Demographic characteristics of participants(N=50)

Age, No,%	
20-30	6 (12%)
30-40	23 (46%)
40-55	21 (42%)
Gender, No, %	
Male	50 (100%)
Education	
No Education	24 (48%)
Primary/Darsi Nizami	26 (52%)
Marital Status	
Married	32 (64%)
Single	14 (28%)
Widow	4 (8%)
Groups	
Abuser	25 (50%)
Non-abuser	25 (50%)

Table 2: t-value showing differences between the drug-abuser and non-abuser on resilience scale. and the differences between the means of two groups was calculating on independent sample t test. It showed that non-abuser scored higher on resilience scale

	Drug-abuser (*n* = 25)		Non-abuser (*n* = 25)				95% CI		Cohen's *d*
Variables	*M*	*SD*	*M*	*SD*	*t*(48)	*P*	*LL*	*UL*	
Resilience Scale	14.04	5.42	31.9	2.6	-14.84	.001	-20.34	15.49	4.20

Table 3: The differences between the means of the 2 group was calculated on independent sample t test, it showed that drug abuser group scored higher as compared to non-abuser.

	Drug-abuser (*n* = 25)		Non-abuser (*n* = 25)				95% CI		Cohen's *d*
Variables	*M*	*SD*	*M*	*SD*	*t*(48)	*P*	*LL*	*UL*	
DAST	8.28	1.33	.72	.76	25.18	.001	6.85	8.16	(6.97)

DISCUSSION:

It has been suggested that rather than just focus on prevention and treatment of drug use, there should also be a focus on preventing the risk factors and enhancing the protective factors, increasing young people's resilience capability, helping with strategies for refusal and hence supporting young people's resilience. The risk factor approach is one that has already been shown to be successful in other areas such as preventing heart and lung disease. The approach works by targeting the risk factors and therefore by reducing the chances of developing the disease (Hawkins et al., 1992).[37]

The demographic findings presented that 23 participants were from (30-40) years, whereas 21 were from (40-55) years and 6 were from (20-30) years of age. This suggests that 42%-46% participants were in between 30-55 years' group. All participants were males, although 26 were educated with primary level and 24 were uneducated. Mostly 32 were married 64%, single was 14 whereas 28%, and 4 were widows 8%.

Although a benefit of the risk factors approach is associated with explanation and prohibition in a way which is precise and easy to convey, however not without problems. While some risk factors are causes others may be only correlated with causes, (Farrington, 2000).[35] It is fundamental to develop pathways which intercept between risk factors and outcomes.

Therefore, it is important to establish that the search for predictive factors is not a search for the causes of drug use, but rather the factors that may make a person more likely to use drugs. Present study hypothesized that there will be more resilience in non-drug addicts as compare to drug addicts. For assessing this hypothesis resilience scale and drug abuse screening test was used, to make the comparison between two groups.

There exists a significant difference between drug abuse group (M=14.04) and non-drug abuse (M=31.96) on resilience scale (see table 2). This result supported the assumption that individuals with high level of resilience traits are more likely to have less problems with drug addiction which is considered as a protective factor, on the other hand drug addicts have less resilience and more problems with substance use. These finding are aligned with the literature as protective factors are helpful in enhancement of the resiliency of an individual for coping with risk factors[34].

The findings on independent t test shows significant difference t (48) =25.18) on Drug abuse screening test (DAST), with large effect size on (Cohen's d=6.97). Results reveals a significant difference between drug abuse group (M=8.28) and non-drug abuse (M=.72). As higher score on this scale presents more problem with substance use. These findings suggest that individuals are at risk of using drugs who have less ability to cope with their risk factors and difficulties of life. These evidence are supported by the literature which postulated that the number of risk factors that a person has been exposed to is a predictor of drug use, regardless of what the particular risk factors are. The more risk factors there are, the greater the likelihood of drug use (Newcomb et al., 1986).[36]

In this study, resilience is considered as the behavior that individuals exhibit in making their decisions not to use drugs and putting this into practice, despite having been exposed to drugs and other risk factors A distinction has made between being capable of resilience and being resilient. Being capable of resisting drug use depends on the circumstances of the particular individuals how the risk and protective factors interact at different stages in their life course. Resilience is the act of being resilient, therefore, putting the capability into action. Resilience is not a permanent feature or characteristic of a person; people may go through stages in which it fluctuates and they are more or less capable of being resilient[34]. However, it can be postulated from the literature and present findings that resilience can enhance one's ability to cope well in face of adversity rather use drugs. Resilience is underpinned by self-regulation theory it's a choice and a decision to make weather to use or refuse it when there is an opportunity.

CONCLUSION:

- Individuals who have capability to put resilience into action are less susceptible to substance use despite of adversity in their life.
- Lack of resilience develop more likelihood of substance use.
- Resilience is a protective factor in face of risk factors and bridge between drug addicts and non-addicts.

LIMITATIONS AND RECOMMENDATIONS:

The limitation of present study is small sample size and data collected only from 1 city. The second limitation is it only focused on the one factor such as resilience. Therefore, future studies can extend to large sample size and other important factors as well. Important focus should be given to enhancement of Resilience training in general population as well as people using substances.

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REFERENCES:

1- Bernstein DP, Fink L, Handelsman L, Foote J, Lovejoy M, Wenzel K, Sapareto E, Ruggiero J. Initial reliability and validity of a new retrospective measure of child abuse and neglect. The American journal of psychiatry. 1994 Aug.

2- Brady KT, Sinha R. Co-occurring mental and substance use disorders: the neurobiological effects of chronic stress. American Journal of Psychiatry. 2005 Aug 1;162(8):1483-93.

3- Lazarus RS, Folkman S. Stress, appraisal, and coping. Springer publishing company; 1984 Mar 15.

4- McEwen BS. Allostasis and allostatic load: implications for neuropsychopharmacology. Neuropsychopharmacology. 2000 Feb 1;22(2):108-24.

5- Selye H. 7he Stress of Life. New York: McGraw Hill. 1976;35(50):17-27.

6- Dallman MF, Pecoraro NC, la Fleur SE. Chronic stress and comfort foods: self-medication and abdominal obesity. Brain, behavior, and immunity. 2005 Jul 1;19(4):275-80.

7- Koob GF, Le Moal M. Drug abuse: hedonic homeostatic dysregulation. Science. 1997 Oct 3;278(5335):52-8.

8- Kalivas PW, Volkow ND. The neural basis of addiction: a pathology of motivation and choice. American Journal of Psychiatry. 2005 Aug 1;162(8):1403-13.

9- Charney DS. Psychobiological mechanisms of resilience and vulnerability: implications for successful adaptation to extreme stress. American journal of Psychiatry. 2004 Feb 1;161(2):195-216.

10- MacQueen GM, Campbell S, McEwen BS, Macdonald K, Amano S, Joffe RT, Nahmias C, Young LT. Course of illness, hippocampal function, and hippocampal volume in major depression. Focus. 2005 Jan;100(1):1387-55.

11- Cicchetti D, Blender JA. A multiple-levels-of-analysis perspective on resilience: implications for the developing brain, neural plasticity, and preventive interventions. Annals of the New York Academy of Sciences. 2006 Dec;1094(1):248-58.

12- Enoch MA. The role of early life stress as a predictor for alcohol and drug dependence. Psychopharmacology. 2011 Mar;214(1):17-31.

13- Bonanno GA. Loss, trauma, and human resilience: have we underestimated the human capacity to thrive after extremely aversive events? American psychologist. 2004 Jan;59(1):20.

14- Fredrickson BL. The role of positive emotions in positive psychology: the broaden-and-build theory of positive emotions. American psychologist. 2001 Mar;56(3):218.

15- Ong AD, Bergeman CS, Bisconti TL, Wallace KA. Psychological resilience, positive emotions, and successful adaptation to stress in later life. Journal of

personality and social psychology. 2006 Oct;91(4):730.

16- Ahmad S, Feder A, Lee EJ, Wang Y, Southwick SM, Schlackman E, Buchholz K, Alonso A, Charney DS. Earthquake impact in a remote South Asian population: Psychosocial factors and posttraumatic symptoms. Journal of traumatic stress. 2010 Jun;23(3):408-12.

17- Alim TN, Feder A, Graves RE, Wang Y, Weaver J, Westphal M, Alonso A, Aigbogun NU, Smith BW, Doucette JT, Mellman TA. Trauma, resilience, and recovery in a high-risk African-American population. American Journal of Psychiatry. 2008 Dec;165(12):1566-75.

18- Luthar SS, Cicchetti D, Becker B. The construct of resilience: A critical evaluation and guidelines for future work. Child development. 2000 May;71(3):543-62.

19- Feder A, Nestler EJ, Charney DS. Psychobiology and molecular genetics of resilience. Nature Reviews Neuroscience. 2009 Jun;10(6):446-57.

20- Fergusson DM, Lynskey MT. Adolescent resiliency to family adversity. Journal of child psychology and psychiatry. 1996 Mar;37(3):281-92.

21- Bartlett, F.C. Remembering: An Experimental and Social Study (1932). Cambridge: Cambridge University Press.

22- Bartlett FC. Thinking. An experimental and social study, New York (Basic Books) 1958.

23- Mandler JM. Stories, scripts, and scenes: Aspects of schema theory. Psychology Press; 2014 Jan 14.

24- Piaget J. Science of education and the psychology of the child. Trans. D. Coltman.

25- Baumeister RF, Heatherton TF. Self-regulation failure: An overview. Psychological inquiry. 1996 Jan 1;7(1):1-5.

26- Karoly P. Mechanisms of self-regulation: A systems view. Annual review of psychology. 1993 Feb;44(1):23-52.

27- Thompson RA. Emotion regulation: A theme in search of definition. Monographs of the society for research in child development. 1994 Feb;59(2-3):25-52.

28- Cochran, W. and Tessor, A. The “What the hell” effect: Some effects of goal proximity and goal framing on performance. In Martin, L.L. and Tessor, A. (Eds.) Striving and Feeling: Interactions among goals, affect and self-regulation (pp. 99 – 120). New York (1996). Lawrence Erlbaum Associates.

29- Bandura, A. Self-efficacy: Toward a unifying theory of behavioral change (1977). Psychology Review, 84, 191-215.

30- Bandura A. Social foundation of thought and action.

31- Green, JG, McLaughlin KA, Berglund PA, Gruber MJ, Sampson NA, Zaslavsky AM, Childhood adversities and adult psychiatric disorders in the national comorbidity survey Replication: Associations with first onset of DSM-IV disorders (2012). Arch Gen Psychiatry.2010a; 67:113–23. PubMed: 4111.

32- Campbell-Sills L, Stein MB. Psychometric analysis and refinement of the connor–davidson resilience scale (CD-RISC): Validation of a 10-item measure of resilience. Journal of Traumatic Stress: Official Publication of the International Society for Traumatic Stress Studies. 2007 Dec;20(6):1019-28.

33- Campbell-Sills L, Stein MB. Psychometric analysis and refinement of the connor–davidson resilience scale (CD-RISC): Validation of a 10-item measure of resilience. Journal of Traumatic Stress: Official Publication of the International Society for Traumatic Stress Studies. 2007 Dec;20(6):1019-28.

34- Hawkins JD, Catalano RF, Miller JY. Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: implications for substance abuse prevention. Psychological bulletin. 1992 Jul;112(1):64.

35- Farrington DP. Explaining and preventing crime: The globalization of knowledge—The American Society of Criminology 1999 presidential address. Criminology. 2000 Feb;38(1):1-24.

36- Newcomb MD, Maddahian E, Bentler PM. Risk factors for drug use among adolescents: concurrent and longitudinal analyses. American journal of public health. 1986 May;76(5):525-31.