



## RESEARCH ARTICLE

### DEVELOPMENTAL FACTORS CONTRIBUTING TO ALCOHOLISM AND ASSESSING THE IMPACT OF SELF MOTIVATION TOWARDS ALCOHOL WITHDRAWAL TREATMENT

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##### Abbreviations:

AUDIT - Alcohol Use Disorder Identification Test  
CIWA-R - Clinical Institute for Withdrawal  
Assessment - Revised  
SAD-Q - Severity of Alcohol Dependence  
Questionnaire  
URICA - University of Rhode Island Change  
Assessment Scale

#### ABSTRACT

**Background:** Alcohol consumption and heavy episodic drinking tends to be higher during young adulthood than at any other period across the lifespan. This may be the effect of developmental factors before adolescence which include external factors like family, house hold structure, impact of relatives, peers, childhood, significant events with siblings, society etc., and internal factors like personality, coping skills, attitude to school, workforce aspiration, misbehavior, interaction and involvement etc. Motivation appears to be a critical dimension in influencing patients to seek, comply with, and complete treatment as well as to make successful long-term changes in their drinking. Although many patients attend treatment, they may not be ready to change their drinking pattern and may not actively participate in treatment hence motivation is important for predicting treatment participation and recovery.

##### Objectives:

- To identify various childhood and adolescent developmental factors which had led to alcohol consumption in later stages of life.
- To assess the severity of alcohol abuse and the impact of motivation for change in alcohol withdrawal treatment and recovery.
- To evaluate progress in meeting therapeutic goals by estimating CIWA.

**Method:** A prospective case controlled observational study was conducted in the government general hospital, Guntur, for a period of 6 months i.e, from Oct 2017- March 2018. Factors predicting youth alcohol consumption (1997) Donovan model was used to determine developmental factors contributing to alcoholism. Severity of Alcohol Dependence Questionnaire (SADQ) and CIWA was used to determine severity of alcohol dependence. University of Rhode Island Change Assessment Scale (URICA) was used to assess readiness for change and differentiate them in stages.

**Results:** A total number of 154 patients were assessed using Donovan model which contains facilitators and inhibitors of external and internal factors. From our data, majority of subjects were observed with facilitators which contribute to alcoholism and their significant improvement in motivation was assessed by using URICA scale. Self motivation plays an important role in alcohol treatment and recovery.

**Conclusion:** There are many facilitators in both internal and external factors contributing to alcoholism in test group. The significant understanding of these factors could help in reducing the incidence of adolescent alcohol abuse in the society by reducing the facilitators from childhood onwards.

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## INTRODUCTION

Alcoholism is on the rise all over the world. Early adolescence is the key developmental period for the initiation of alcohol use that progresses onto regular use and problem drinking in mid and later adolescence and young adulthood. Over the past century, researchers have increasingly explored family's role in the development, course, treatment and prevention of alcohol abuse and dependence.

The likelihood of starting to drink was also found to relate to adolescent perceptions of mother's and father's permissiveness.

### Developmental factors affecting alcohol abuse

These include external factors like family, household structure, impact of relatives, peers, childhood, significant events with siblings, society, etc., and internal factors like personality, coping skills, attitude to school, workforce aspiration, misbehaviour, interaction and involvement (Brook *et al.*, 1986). Among adolescents, alcohol is the most commonly used psychoactive drug. Alcohol consumption and heavy episodic

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drinking (i.e., having five or more drinks in a row) tend to be higher during young adulthood than at any other period across the lifespan (Newcomb, 1995). Adolescence is a phase of intense transformations and discoveries that affect the physical, hormonal, cognitive, social, cultural and emotional aspects (Kaplan and Sadhock's, 2015). Adolescents commonly search new experiences and are curious to gain new sensations. This context comes with great concerns associated with this phase of life, which are the risks related to the consumption of alcohol and other drugs.

### Motivation

Motivation plays an important role in alcoholism treatment by influencing patients to seek, complete, and comply with treatment as well as make successful long-term changes in their drinking. Both alcohol-abusing and alcohol-dependent people can be classified into different "stages of change" in terms of their readiness to alter their drinking behaviour. Consequently, researchers have had to consider more seriously the role of motivation in the treatment of and recovery from substance abuse and to incorporate motivational enhancement strategies into treatment programs (DiClemente *et al.*, 2009).

### MATERIALS AND METHODS

- A prospective case controlled observational study on developmental factors contributing to alcoholism and assessing the impact of self motivation towards alcohol withdrawal treatment was conducted in a population of 18-35 years of consecutive alcoholics for a period of 6months.
- A total of 272 patients were screened through AUDIT, out of which 154 subjects met our inclusion criteria and were included in the study after taking consent from them. 62subjects met our inclusion criteria for the control group.

- The interviews were conducted in a language that the patient understood and was comfortable with.
- Patient's detailed history was taken using a socio-demographic proforma.
- Factors predicting youth alcohol consumption (1997) model was used to determine developmental factors contributing to alcoholism.
- Severity of Alcohol Dependence Questionnaire (SADQ) and CIWA was used to determine severity of alcohol dependence.
- University of Rhode Island Change Assessment Scale (URICA) was used to assess readiness for change and differentiate them in stages.
- CIWA scale was used to assess the decrease of withdrawal symptoms in patients. The data was tabulated and analyzed using suitable statistical tools.

### RESULTS

#### External factors

Figure 1 depicts that in control group parenting is authoritative for about 48.39%, then comes authoritarian 38.71%, which are inhibitors, whereas in test group permissive parenting is about 42.86% which is a facilitator for alcohol consumption. Figure 2 depicts that in control group parenting is authoritative for about 48.39%, then comes authoritarian 38.71%, which are inhibitors, whereas in test group permissive parenting is about 42.86% which is a facilitator for alcohol consumption. Figure 3 depicts that in the control group no significant childhood events that troubling for about 77.42%, which is an inhibitor, whereas in test group there are significant childhood events that troubling for about 62.34% which is a facilitator for alcohol consumption.

**Internal factors:** Figure 4 depicts that in control group Personality is conservative for about 53.84%, which is an inhibitor, whereas in test group impulsive/aggression/anxiety is about 49.35% which is a facilitator for alcohol consumption.

Table 1. Parenting

Parenting	Test	Control	RR	C.I	P VALUE	
					Chi square	RR
Authoritarian	12.99%	38.71%	0.33355	0.200-0.561	0.0001***	<0.0001
Authoritative	23.38%	48.39%	0.4831	0.328-0.709	0.0006***	0.0002
Permissive	42.86%	8.06%	5.3143	2.25-12.55	0.0001***	0.0001
Uninvolved	20.78%	4.84%	4.2944	1.365-13.51	0.0075**	0.0127

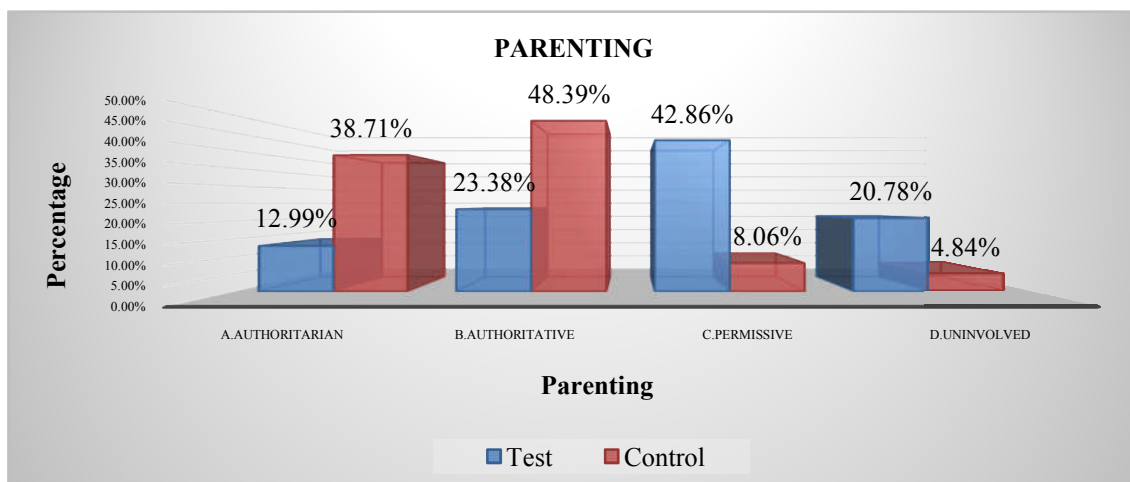
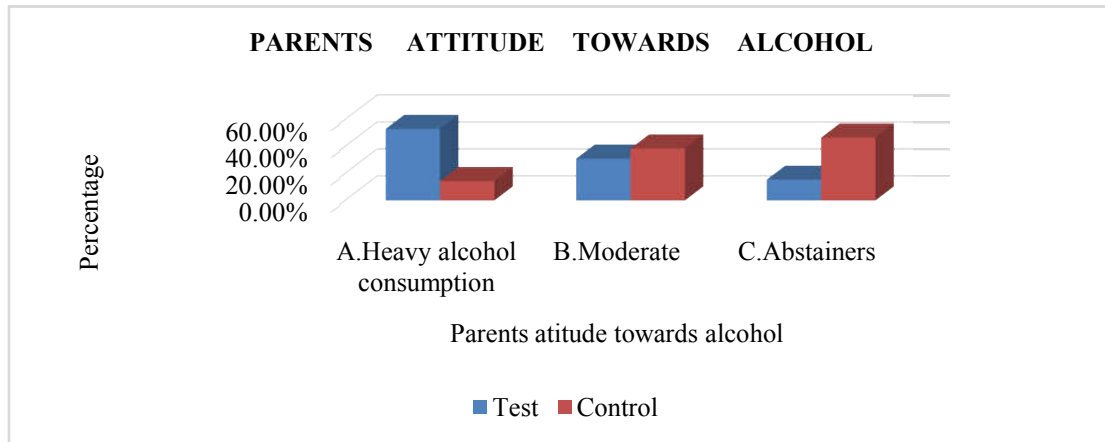


Figure 1: Comparison graph for parenting

**Table 2. Parents attitude towards alcohol**

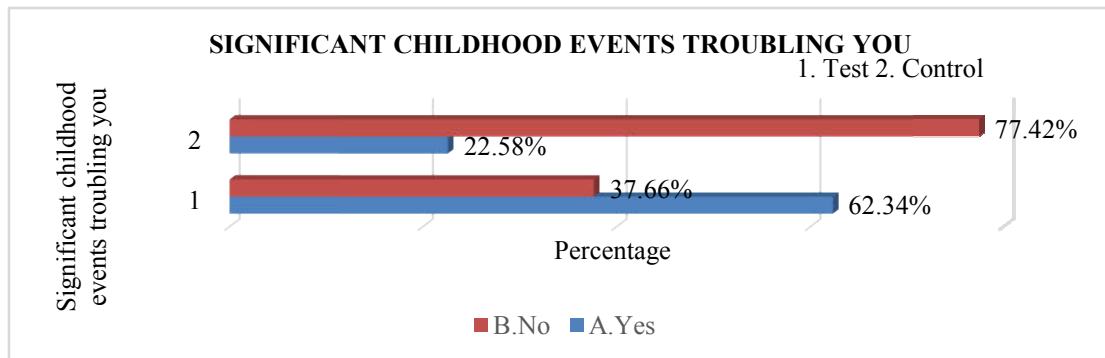
Parents attitude towards alcohol	Test	Control	RR	C.I	P VALUE	
					Chi square	RR
Heavy alcohol consumption	53.25%	14.52%	3.6681	<0.0001	0.0001***	1.969-6.831
Moderate	31.17%	38.71%	1.3849	0.0559	0.3660	0.991-1.933
Abstainers	15.58%	46.77%	0.3332	<0.0001	0.0001***	0.211-0.524



**Figure 2: Comparison graph for Parents attitude towards alcohol**

**Table 3. Significant childhood events troublig you**

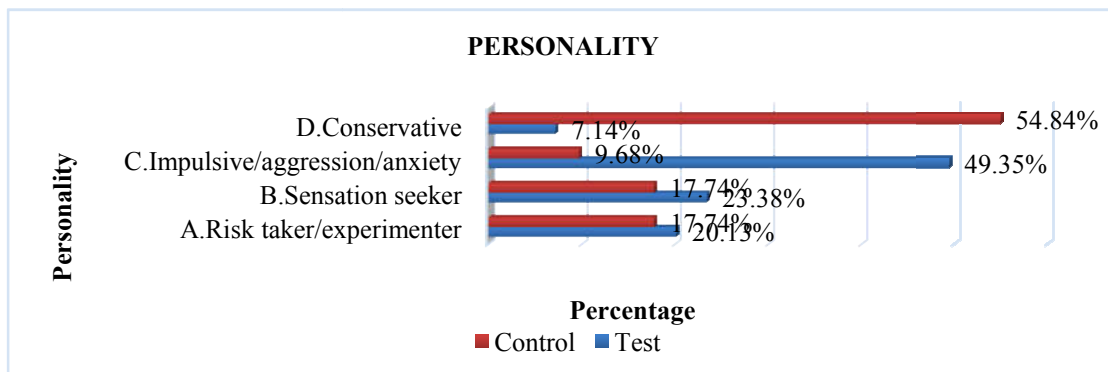
Significant childhood events troubling you	Test	Control	RR	C.I	P VALUE	
					Chi square	RR
Yes	62.34%	22.58%	2.7607	1.713-4.44	0.0001***	<0.0001
No	37.66%	77.42%	0.4865	0.381-0.620	0.0001***	<0.0001



**Figure 3. Comparison graph for significant childhood events troubling you**

**Table 4. personality**

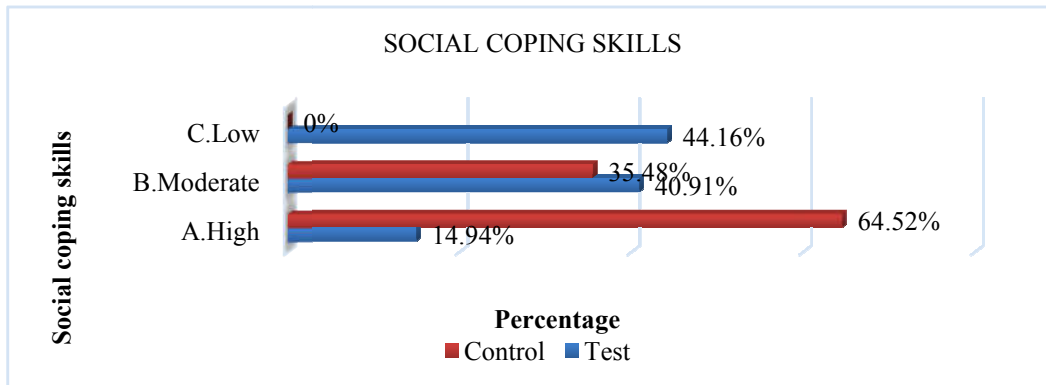
Personality	Test	Control	RR	C.I	PVALUE	
					Chi square	RR
Risk taker/experimenter	20.13%	17.74%	1.1346	0.60-2.11	0.8328	0.6905
Sensation seeker	23.38%	17.74%	1.3176	0.717-2.41	0.4680	0.3735
Impulsive/aggression/anxiety	49.35%	9.68%	5.0996	2.34-11.09	0.0001***	<0.0001
Conservative	7.14%	54.84%	0.1303	0.070-0.24	0.0001***	<0.0001



**Figure 4. comparison graph for personality**

**Table 5. Social coping skills**

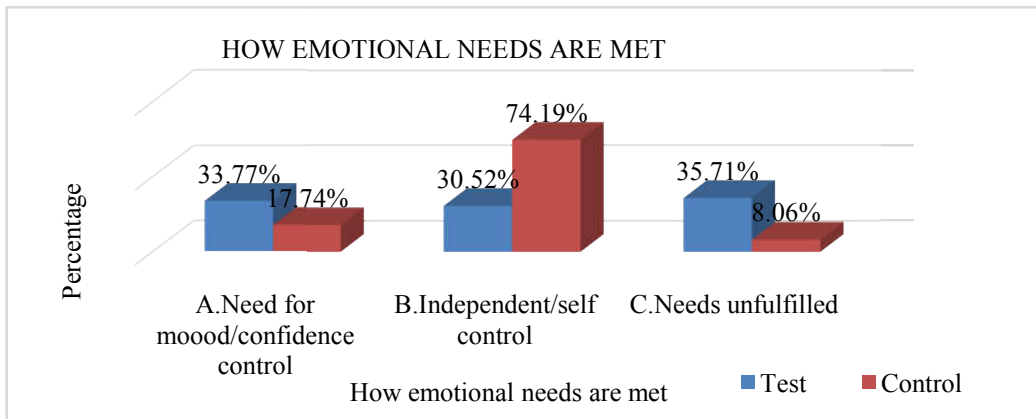
Social coping skills	Test	Control	RR	C.I	P VALUE	
					Chi square	RR
High	14.94%	64.52%	0.2315	0.15-0.35	0.0001***	<0.0001
Moderate	40.91%	35.48%	1.1529	0.78-1.69	0.5590	0.4696
Low	44.16%	0%	55.6839	3.50-885.3	0.0001***	0.0044



**Figure 5. Comparison graph for Social coping skills**

**Table 6. How emotional needs are met**

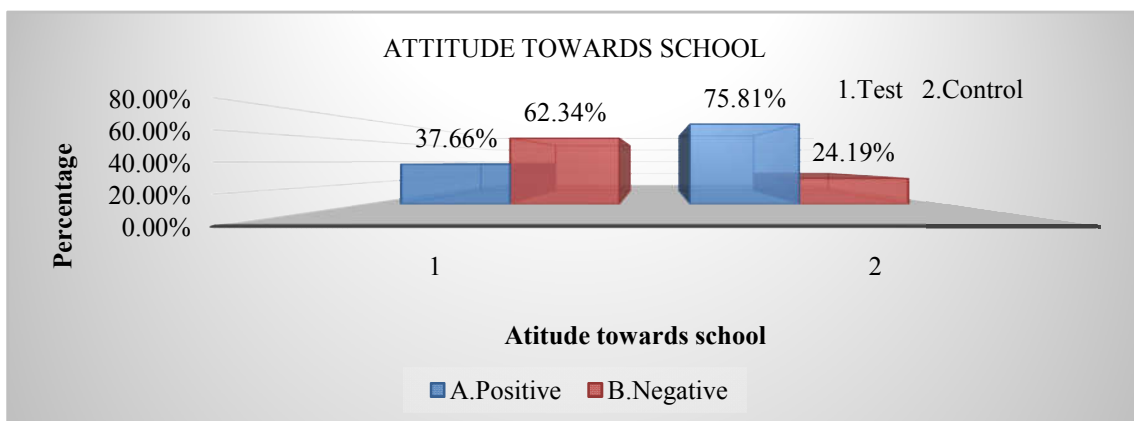
How emotional needs are met	Test	Control	RR	C.I	P VALUE	
					Chi square	RR
Need for mood/confidence control	33.77%	17.74%	1.9032	1.06-3.39	0.0294*	0.0296
Independent/self control	30.52%	74.19%	0.4113	0.310-0.54	0.0001***	<0.0001
Needs unfulfilled	35.71%	8.06%	4.4286	1.86-10.53	0.0001***	0.0008



**Figure 6. Comparison graph for how emotional needs are met**

**Table 7. Attitude towards school**

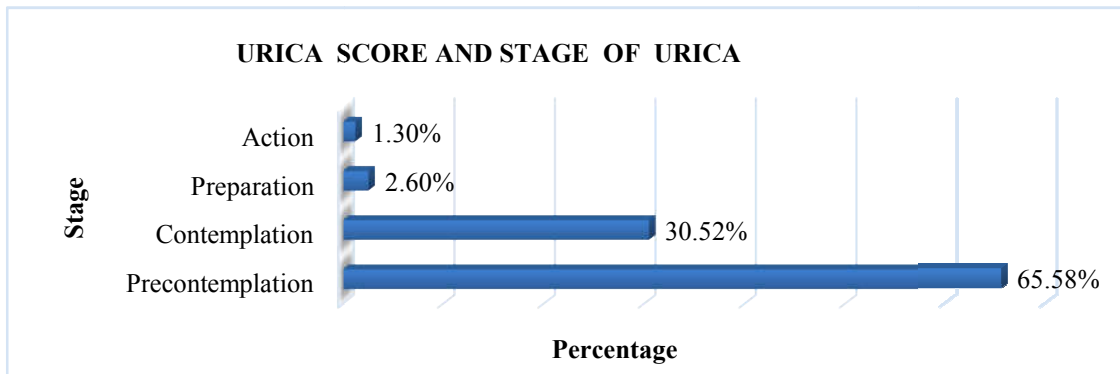
Attitude towards school	Test	Control	RR	C.I	P VALUE	
					Chi square	RR
Positive	37.66%	75.81%	0.4968	0.38-0.63	0.0001***	<0.0001
Negative	62.34%	24.19%	2.576	1.63-4.07	0.0001***	<0.0001



**Figure 7. Comparison graph for Attitude towards school**

**Table 8. URICA score and stage of URICA**

Stage of Urica	Urica score
Precontemplation	65.58%
Contemplation	30.52%
Preparation	2.60%
Action	1.30%



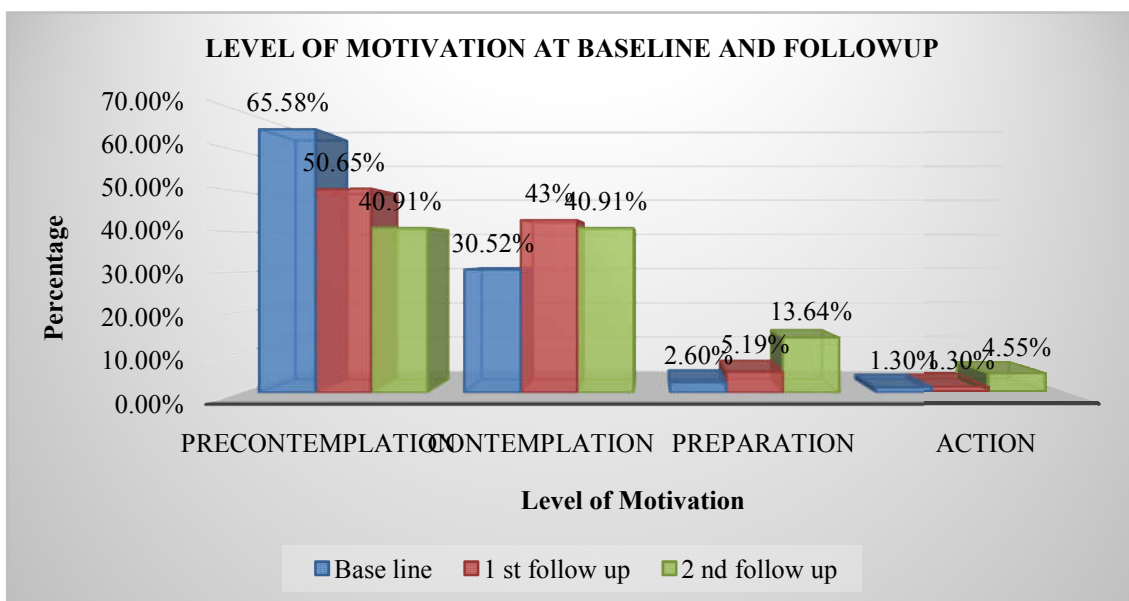
**Figure 8. Urica score and stage of urica**

**Table 9. Level of motivation at baseline and followup**

Categories	Base line	1 st follow up	P value
Pre-contemplation	65.58%	50.65%	<0.0001
Contemplation	30.52%	43%	<0.0001
Preparation	2.60%	5.19%	<0.0001
Action	1.30%	1.30%	<0.0001

Categories	1 st follow up	2 nd follow up	P value
Pre-contemplation	50.65%	40.91%	<0.0001
Contemplation	43%	40.91%	<0.0001
Preparation	5.19%	13.64%	<0.0001
Action	1.30%	4.55%	<0.0001



**Figure 9. Level of motivation at baseline and followup**

Figure 5 depicts that in control group high social coping skills for about 64.52%, which is an inhibitor, whereas in test group low social coping skills is about 44.16% which is a facilitator for alcohol consumption. Figure 6 depicts that in control group subjects of independent/self-control are high for about for about 74.19%, which is an inhibitor, whereas in test group needs unfulfilled are high for about 35.71% which is a facilitator for alcohol consumption.

Figure 7 depicts that in control group attitude towards school is positive for about 75.81%, which is greater, whereas in test group attitude towards school is negative for about 24.19% which is a facilitator for alcohol consumption. Figure 8 depicts that at baseline about 65.58% subjects are in Precontemplation, 30.52% are in Contemplation, 2.60% are in Preparation and 1.30% are in Action. Figure 9 depicts that at baseline, subjects in Precontemplation are 65.58%, then comes 30.52% in

Table 10. Stage of alcohol dependence vs level of motivation

Categories	Precontemplation	Contemplation	Preparation	Action
Severe	8.82%	12.75%	0%	0%
Moderate	35.29%	13.73%	1.96%	0.98%
Mild	12.75%	13.73%	0%	0%
Total	56.86%	40.20%	0.02%	0.01%

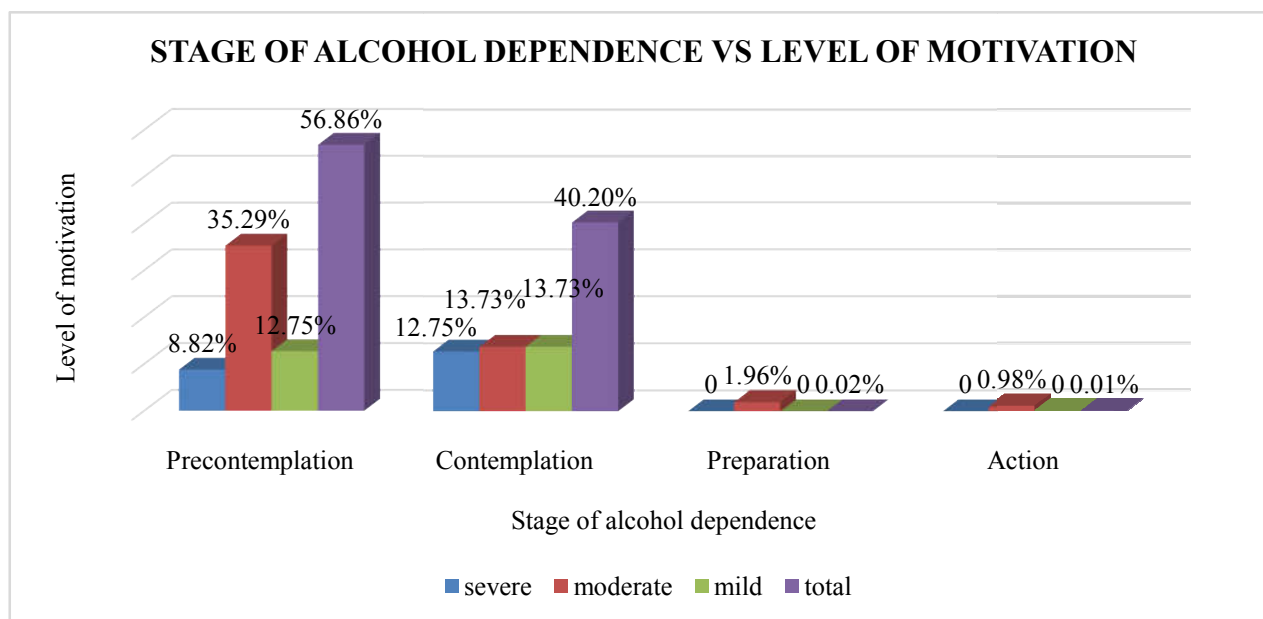


Figure 10. Stage of alcohol dependence vs Level of motivation

Contemplation, 2.60% in Preparation and 1.30% in Action and after 2nd followup subjects in contemplation increased to 40.91%, in Preparation 13.64% and in Action to 4.55%. Figure 10 depicts that in severe stage 8.82% are in Precontemplation, 12.75% are in Contemplation, 0% in Preparation and 0% in Action. On moderate stage, 35.29% in Precontemplation, 13.73% in Contemplation, 1.96% in Preparation and 0.98% in Action. In mild stage, 56.86% in Precontemplation, 13.73% in Contemplation, 0% in Preparation, and 0% in action.

## DISCUSSION

A prospective case controlled observational study on developmental factors contributing to alcoholism and assessing the impact of self motivation towards alcohol withdrawal treatment was conducted in a population of 18-35 years of consecutive alcoholics for a period of 6 months. A total of 272 patients were screened, out of which 154 subjects met our inclusion criteria. 62 subjects met our inclusion criteria for the control group. Our study population results stated that the age group of 25-35 years (81.37%) was the predominant age group who had sought for medical treatment regarding alcoholism. This was similar to Sethi and Trivedi (1979) who had conducted a study in rural population of Uttar Pradesh where they found that maximum alcohol abusers seeking medical help were within the age group of 35 years. Educational background influencing alcohol abuse was highly significant among primary and secondary levels of education (62.75%,  $P < 0.0001^{***}$ ) this was very similar to Kadri *et al.*, (2003) who had stated that most of the abusers were educated up to the primary and secondary level of education only. Half of the study case group revealed misbehaviour at school (51.30%,  $P = 0.0091^{**}$ ) when compared to control population. Herren kohl *et al.*, (2000) have concluded that childhood and school violence are in concurrence with alcohol abuse later.

A larger quarter of the case population (74.03%) has had peers who are rebellious and alcoholics stated a relative risk of ( $P < 0.001$ ) and a significant chi square value when compared with the control population ( $P = 0.001^{***}$ ) which is similar to Bremner *et al.*, (2011) who has stated that having friends who spend more time drinking will influence the drinking habits of the individual. Jackson *et al* (2005), also stated that peer influences is one of the strongest correlates of adolescent alcohol abuse and Field (2002), Akinboba (2009) stated that peer pressure exerts the greatest impact on the life of adolescents. Our study revealed that more than half of the subject's parents (53.25%) were severe alcoholics. The study revealed that there was a significant association between adolescent alcohol abuse and parental consumption of alcohol. This finding is in consensus with earlier findings of Zucker and Gomberg (1996) who stated that the that personality of an individual develops as the person grows and develops into an adult and that traits frequently expressed during the developmental phase of an individual almost entirely manifests in adulthood. White *et al* (2000) [12] also stated that parental drinking patterns have been shown to affect drinking by offspring over the life course and that young people often model their own drinking patterns based on their parents' patterns of alcohol consumption. Two thirds of the case population (69.48%) have stated that they needed mood/confidence support (33.77%) and their needs were unfulfilled (35.71%). This is in concurrence with Willis and Cleary (1996) and Andrews *et al* (1997) who stated that the individuals who received more emotional support from their environment are less likely to turn to heavy drinking. We have found that the majority of our population (54.44%) has been bought up in a community where there was easy access to alcohol. Grant (2010) who stated that in an environment where excessive alcohol and drug use is accepted, the incidence of substance abuse is usually high. On an average, a moderate



amount of the subjects has had moderate self-worth levels (38.96%) and social coping skills were low (44.16%) stating that self-worth is not facilitating alcohol abuse whereas low social coping skills was facilitating alcohol use. But Rubin *et al.*, (2006); Guyer *et al.*, (2012) showed that alcohol consumption is usually associated with high social competence and improved self esteem. Conversely, with low levels of alcohol use and related problems were more likely to endorse statements indicative of little motivation to change. The positive relation between drinking and motivation is consistent with Caldwell's (2002) findings, but inconsistent with Barnett *et al.*, (2006) finding that lighter drinkers reported greater motivation to reduce their drinking following an alcohol-related event. With regard to level of motivation, out of 154 subjects 65.58% were in precontemplation, 30.52% were in contemplation, 2.60% in preparation and 1.30 % in action at the baseline. After 1st follow up subjects in contemplation were increased to 43% and in preparation to 5.19 % and after 2nd follow up subjects increased in preparation to 13.64% and in action 4.55. In this study, we have considered developmental factors, i.e. external factors and internal factors which contain facilitators and inhibitors to be crucial in contributing to alcoholism. After data analysis of the test and control groups that we have obtained, test group contains more facilitators than inhibitors and control group contain more inhibitors than facilitators.

### Conclusion

In this study, we have considered developmental factors, i.e. external factors and internal factors which contain facilitators and inhibitors to be crucial in contributing to alcoholism. After data analysis of the test and control groups that we have obtained, test group contains more facilitators than inhibitors and control group contain more inhibitors than facilitators. Patient's readiness to change from drinking habit depends on their self motivation. Through this study, we observed that self motivation will influence the alcohol treatment and recovery. The significant understanding of these factors could help in reducing the incidence of adolescent alcohol abuse in the society by reducing the facilitators from childhood onwards. Through this we can minimize the alcohol abuse and decrease the burden to many families both economically and emotionally. Further studies are required to strengthen our study.

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