



A STUDY OF TYPE "A" BEHAVIOR PATTERN IN ASSOCIATION WITH ALEXITHYMIA IN ISCHEMIC HEART DISEASE

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ABSTRACT

The number of patients with Ischemic Heart Disease is rising and psychosocial factors are now predictable as playing an important and independent role in the progression of Ischemic heart disease and its complications. An aim of the present study is to examine the association between alexithymia and Type A Behavior Pattern in Ischemic heart disease patients. The population sample used for the study consisted of 150 participants, comprising 50 in the study group drawn from the OPD's and 50 in the control group (from the general population) from Gadchiroli. Further 50 controls from the general population of Aurangabad were included to study alexithymia in broader context. The tools utilized included Jenkins Activity Survey (JAS-C) and Toronto Alexithymia Scale (TAS-20) and various descriptive and inferential statistics were applied. The outcome revealed a high prevalence (40%) of alexithymia in our study group. However the association of alexithymia with Ischemic heart disease was not clearly implied as the contrast of alexithymia between our study group and control group did not divulge any significant difference and inconsistently the occurrence in the control group was even higher. Further a comparison of the control group from Gadchiroli with that of Aurangabad revealed a highly significant difference. Thus, our study suggests that perpetual trauma and unending stress owing to current prevailing condition in Gadchiroli mutually with the presence of several kinds of mental disorders in a important segment of Gadchirolii population has rendered the entire population more susceptible to developing alexithymia. Additional, our findings did not reveal any association between Type A Behavior Pattern and Ischemic Heart Disease. This indicates a need for further elucidation of the precise role of personality types in producing and preventing Ischemic heart disease.

Keywords: Ischemic Heart Disease; Alexithymia; Type A Behavior Pattern; Traumatic conditions; Risk factors.

INTRODUCTION

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Throughout the earlier few years, extensive development has been made in identifying the risk factors associated with Ischemic heart disease. Numerous studies have clearly publicized that Ischemic heart disease is a significant problem in developing countries (Reddy K.S., 1998) and conventional risk factors do not explain all cases in Indian population (Jaswal D.S., Saha T.K., 2008). Rising incidence in younger age group (Siwach S.B., Singh H. 1998) makes the condition more alarming. Research on the relationship between psychosocial factors and ischemic heart disease has evolved along two parallel trails. On one hand, several psychological states and traits including anxiety, anger, type A behavior pattern, depression, stress and recently, sleep disorders have been identified as causative to risk for the development or exacerbation of heart disease. On the other hand, the practice of heart disease seems to give to risk for many psychiatric problems, especially depression, anxiety, and cognitive disorders (Shapiro P.A., 2005). In addition to these fine researched risk factors for ischemic heart disease, exploration of further probable factors involved is also being professed at present. There are two constructs which are additionally investigated in this regard, one is alexithymia, in the context of psychosomatics and the other is Type A Behavior Pattern, in context of ischemic heart disease.

In the early 1973s, Sifneos coined the term “alexithymia.” Alexithymia means “no words for feeling,” and it refers to a personality construct characterized by impoverishment of fantasy, poor capacity for symbolic thought, and an inability to experience and verbalize emotions. The core characteristics of alexithymia are marked dysfunction in emotional awareness, social attachment, and interpersonal relating (FeldmanHall O., Dalgleish T., Mobbs D., 2013). Alexithymia is a personality construct characterized by the subclinical inability to identify and describe emotions in the self. It is, by definition, considered a stable personality trait (Sifneos P.E., 1973). According to the current formulation (Taylor G.J., Bagby R.M., 1999), (Nemiah J.C., Sifneos P.E., 1970) alexithymia consists of four features: difficulty in identifying feelings and distinguishing between emotions and bodily feelings; difficulty in describing feelings verbally to others; reduction or absence of imaginative ability, and; external, operative cognitive style. The prevalence of alexithymia in working age populations has been shown to be about 9%-17% for men and 5%-10% for women (Lane R.D., Sechrest L., 1998), (Salminen J.K., Saarijavi S., 1999). At the population level, alexithymia is associated with older age, male sex, lower socioeconomic status, fewer years of education, single marital status, and poorer perceived health (Honkalampi K., Hintikka J., 2000), (Kokkonen P., Karvonen J.T., 2001). Alexithymia has been shown to be associated with several edical conditions and mental health problems (Taylor G.J., Bagby R.M., 2004), (Nehra D.K., Sharma V., 2011). An association between alexithymia and dissatisfaction with life has been found in some studies on coronary heart disease patients (Kokkonen P., Karvonen J.T., 2001). (Taylor G.J., Bagby R.M., 2004).



Type A behavior pattern refers to a integer of personality trait characteristics, together with rushed, ambitious and competitive behavior, impatience, hostility, and intolerance (Friedman M., Rosenman R.H., 1974). Previous evaluation of the literature up to 1982 on Type A behavior by Matthew (Matthews K.A., 1982), concluded that Type A behavior pattern was “firmly established as a risk factor for coronary heart disease, although it is not well understood from a psychological perspective,”. Though, successive research on the association between Type A behavior pattern and ischemic heart disease have been inclusive or negative. This direct researchers to propose that not all aspects of the type A behavior are negative for cardiovascular health, but only a few of its component traits such as hostility, anger, aggressiveness or exaggerated commitment to work. Studies conceded out on the association between various psychosocial factors and ischemic heart disease have so far not been exceptionally decisive except for the ones that have recognized a specific association between depression and ischemic heart disease. Most of these researches have been restricted to the study of depression, anxiety, stress and life satisfaction and not much attention has been given to other relevant psychological phenomena like alexithymia. The literature on the association between alexithymia and ischemic heart disease is uncertain till date. Whereas some research has shown alexithymia to be associated with ischemic heart disease (Numata Y., Ogata Y., 1998), others did not divulge any relationship of alexithymia to the presence or severity of ischemic heart disease (Lumley M., Tomakowsky J., 1997). Taken together, little is known about alexithymia in ischemic heart disease patients.

Auxiliary, some studies have piercing out that one reason for the uncertain findings about the association between ischemic heart disease and Type A behavior pattern could perhaps be the difficulty in measuring Type A behavior pattern (Booth-Kewley S., Friedman H.S., 1987). This study realizing the requirement for further investigation into these constructs, aims to contribute to an enhanced consideration of the role of alexithymia and Type A behavior pattern in the context of ischemic heart disease.

Research Methodology

Sample: This study consisted of 150 participants in the ages of 25 to 75. Out of the 100 participants from Gadchiroli 50 patients comprising the study group were drawn from the out-patient clinic services of the respective consultants (GA*3, MAM*4) and 50 controls were taken from the general population of Gadchiroli. Keeping in view the mass distress situation in Gadchiroli, the investigators planned to include another control subgroup from a place of Maharashtra, where peace and tranquility prevails. So, a comparable subgroup of 50 controls from the general population of Aurangabad was included to study alexithymia in a broader context.

Tools: Jenkins Activity Survey (Form C) JAS-C and Toronto Alexithymia Scale (TAS-20)

Jenkins Activity Survey (Form C) JAS-C: The JAS-C is a 52-item multiple-choice questionnaire that measures the Type-A behavior pattern and three other related factors: Speed and impatience, Job involvement, and Competitiveness²⁰. Of the four scores derived from this test, the Type-A score is an overall estimate of the behavior pattern that is characterized by extremes or competitiveness, aggressiveness, impatience, and time pressure²⁰. The subscale (A- scale) used in present study consists of 21 items. In accordance with other studies²¹, scores falling above the 75th percentile were considered Type A.

Toronto Alexithymia Scale (TAS-20): The TAS-20 is a 20 item self-report instrument that assesses alexithymia ²². It has a three-factor structure that is theoretically consistent with the alexithymia construct. The three factors comprise three subscales. The reliability and validity of the TAS-20 has been supported by factor analysis, good internal consistency, and high test-retest correlations over a 3-week period, consistent with the trait perspective of alexithymia. This scale has demonstrated excellent psychometric properties ^{23,24}.

Data analysis

Data was analyzed using SPSS. Descriptive analysis was done by calculating the frequency and percentage. Student's t-test used to obtain p value. To account for the tests performed, p-values (< 0.05) were considered to indicate significant statistical difference.

Results

The analysis of the data and the results are tabulated below:

Table 1: Percentile analysis of Alexithymia and Type A behavior pattern in the sample

Groups	Category	N (%)	Category	N (%)
Ischemic Heart Disease Patients	Alexithymia	21 (42%)	Type –A	23 (46%)
	Possible	7 (14%)	Type–B	15 (30%)
	Alexithymia			
Healthy Controls (Gadchiroli)	No Alexithymia	22 (44%)		
	Alexithymia	23 (40%)	Type–A	24 (48%)
	Possible	10 (20%)	Type–B	9 (18%)
Healthy Controls (Aurangabad)	Alexithymia			
	No Alexithymia	17 (34%)		
	Alexithymia	8 (16%)		
	Possible	2 (4%)		
	Alexithymia			
	No Alexithymia	40 (84%)		

Table 2.A: Individual mean and standard deviation of Alexithymia and Type A behavior pattern of Ischemic Heart Disease patients and healthy controls

	Group	N	Mean	Std. Deviation
Alexithymia	ISCHEMIC HEART DISEASE	50	55.62	11.46424
	Healthy Control	50	54.081	10.97278
Type A	ISCHEMIC HEART DISEASE	50	232.823	101.59317
	Healthy controls	50	266.881	74.76838

Table 2.B: Abstract of t-test for Ischemic Heart Disease and control group on Alexithymia and Type A behavior pattern, respectively

	z	Df	P	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Alexithymia	-0.678	98	0.50	-1.53	-5.97363	2.93363
Type A	1.907	98	0.058	34.07	-1.3408	69.4608

Table 3.A: Individual mean and standard deviation of Alexithymia of healthy control groups from Gadchiroli and Aurangabad

	Healthy Controls	N	Mean	Std. Deviation
Alexithymia	Gadchiroli	50	54.082	10.97278
	Aurangabad	50	40.844	11.73059

Table 3.B: Abstract of t-test for control groups of Gadchiroli and Aurangabad on Alexithymia

	z	Df	P	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Alexithymia	5.8281	98	0	13.242	8.73208	17.74792

Discussion

Our study revealed a high prevalence of alexithymia in patients with Ischemic Heart Disease, prevalence roughly twice (40%) than that revealed by studies reported in the world literature



(Taylor G.J., Bagby R.M., 2003). Further, although a comparison of alexithymia between our study group and control group did not reveal any significant difference ($P = 0.500$), but a startling finding is the high prevalence of alexithymia not only in the study group but also in the control group where intriguingly alexithymia is even higher than that of the study group. This paradoxical finding in our study can be explained by the fact that Gadchiroli has been in the mid of perpetual trauma and unending stress due to the present prevailing manmade disaster situation for the last more than approximately 25 years. The psychological impact of any catastrophe apart from having adverse effect at the individual level can also lead to change in the threat and safety perception and emerging social processes as well as shared behaviors of the whole community (Margoob M.A., 2006). Research has shown that severe traumatic experiences could lead to the alexithymic features (Kooiman C.G., Spinhoven P.H., 1998). Comparison of alexithymia between the control groups of Gadchiroli and Aurangabad was found to be highly significant ($P = 0.000$) with a much lesser prevalence of 16 % in the Aurangabadvi population which is consistent with the findings of other researchers who have reported the prevalence of alexithymia in the range of 8–19% in the general population (Sivak R., Wiater A., 1997). Alexithymia occurring as a consequence of repeated exposure to life threatening situations or conditions has been referred to as secondary alexithymia (Kojima M., Frasure-Smith N., 2001). As revealed by studies (Margoob M.A., Firdosi M.M., 2006) exposure to multiple life threatening situations in Gadchiroli is more than 50% in the general population which could render this population even more vulnerable to alexithymia.

Since besides medical conditions, alexithymia has also been shown to be associated with psychiatric disorders such as depression, (Saarijärvi S., Salminen J.K., 2006) substance related disorders, posttraumatic stress disorder, (Kupchik M., Strous R.D., 2007) generalized anxiety disorder, the patient population based studies. (Ali Z., Margoob M.A., 2000) Series of studies conducted by Margoob et al in Gadchiroli have clearly indicated that a significant segment of population has developed some kind of mental disorder, be it depression, (Margoob M.A., A.A. Beg, 1995) trauma related disorders (Margoob M.A., Arshad H., 2002) or substance abuse, (Margoob M.A., Dutta K.S., 1993) to name a few.

This high prevalence of mental disorders in the Gadchirolii population can be associated with high alexithymic prevalence in the same population.

Type A behaviour prototype is a combination of several elements including aggressiveness, hostility, ambitiousness, competitive drive and a time urgency. (Rosenman R.H., Brand R.J., 1975) In their study Friedman and Rosenman (Friedman M., Rosenman R.H., 1959) mentioned that people with a Type A personality had a 7-fold greater incidence of clinical coronary artery disease than did those with a Type B personality. The conclusions of early studies showing a positive relationship between ischemic heart disease and Type A behaviour pattern have now been challenged by a great number of studies finishing that Type A

behaviour pattern has no effect on ischemic heart disease (Kuper H., Marmot M., 2002). The findings of our study do not show any significant difference between the Type A behaviour pattern of ischemic heart disease and Non-ischemic heart disease group, indicating no association between Type A behaviour pattern and ischemic heart disease. This finding is in conformity with a number of current results that have raised questions regarding the strength of the relationship between ischemic heart disease and the type A behavior pattern. (Kuper H., Marmot M., 2002) Further, our findings are consistent with the research findings by Lachar (Lachar BL., 1993) suggesting that coronary-prone behavior and Type A behavior are not synonymous, and that the coronary-prone patient should not be envisaged as the “achievement-oriented, overburdened workaholic. Instead, coronary-prone behavior appears to include physiologic and emotional reactivity to challenging situations,” especially those triggering anger, cynicism, mistrust, and hostility. The findings of our study are also in keeping with the statement of Kabat-Zinn (Kabat-Zinn, J. Full 1990) that “you are at less risk of heart disease as a Type A if you are low in hostility, even if you feel strong time urgency and are competitive”.

Despite myriad studies during the past 5 decades, the precise role of personality types in producing or preventing coronary artery disease awaits clarification (Fred H.L., Hariharan R., 2002). Prospect research is essential with huge sample based study.

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