

Original Research Article

Positive thinking and health status among adults in a tertiary care hospital of Delhi, India

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ABSTRACT

Background: The positive emotions are important to the science of well-being simply because positive emotions are markers of optimal well-being. The positive emotions produce optimal functioning, not just within the present but over the long term as well and also as a means to achieving psychological growth and improved psychological and physical well-being over time.

Methods: It was a cross sectional study conducted in a tertiary hospital of New Delhi. The aim was to study the satisfaction with life and positive/negative emotions. A total of 170 subjects were enrolled randomly from out-patient department (OPD) patients (85 patients and 85 who were apparently healthy and did not have any complaint related to health). They were assessed with pre- tested questionnaire. Comparisons between patients and controls were done using chi-square test and $p < 0.05$ was considered statistically significant.

Results: Majority subjects were aged 21-30 years, 50.6% were males, 30.6% patients and 11.9% controls were illiterate. 50.6% of participants among controls had positive thinking as compared to 36.5% in patients ($p < 0.05$). The effect of behaviour including tobacco smoking and chewing, alcohol consumption was also studied. There was no significant difference in positive/ negative thinking among smokers and alcohol consumption.

Conclusions: Positive thinking was found significantly high among the apparently healthy subjects as compared to patients (diseased). Large scale community based studies are required to find out the consistency in association between positive thinking and health.

Keywords: Health status, Positive thinking

INTRODUCTION

The extent to which an individual typically experience an array of negative emotions contributes to their risk for morbidity has received considerable attention.^{1,2} This negative emotional style (NES also termed neuroticism or negative affectivity) can include a broad range of aversive moods such as anxiety, hostility, and depression.¹ Current evidence suggests that a more extreme NES is associated with more health complaints,

but not with a greater risk for verified diseases, including colds and flu.³⁻⁵ In contrast, there has been little interest in the disease risk for persons with a Positive emotional style (PES) characterized by moods such as happy, pleased, relaxed, and lively. Positive and negative emotions are not opposite ends of a continuum.⁶ They are only modestly correlated and the experience of positive and negative emotions are associated with activation of different areas of the brain.⁷ PES may promote health by encouraging health enhancing behaviours, building resources to cope with stress and enhancing regulation of

emotion-sensitive biological systems.⁸⁻¹⁰ Consequently, few studies hypothesized that PES is associated with positive health practices, lower levels of stress hormones and resistance to infectious illness.^{11,12}

METHODS

This was an observational cross sectional study conducted among the OPD patients in the Medicine department of a large public hospital in New Delhi. In view of lack of information on similar studies, considering null hypothesis and 50% positive thinking among the study subjects irrespective of diseased or apparently healthy individuals, at 20% relative error and 5% alpha, a sample of 100 was considered adequate. However, we have decided to enrol a total of 170 adult subjects (aged 18 years or more) in the study including 85 patients diagnosed to be suffering from some disease (disease group) and 85 apparently healthy individuals accompanying them (control group). The patients attending medicine OPD were randomly selected on two days of the week. In one OPD day ten patients were selected from amongst 120-140 patients using lottery method. For each selected patient, one accompanying adult who was apparently healthy based on self-report and did not have any presenting complaint was selected as control. In case of more than one accompanying person one was selected by lottery method. In case no accompanying adult was available using the criteria of apparently healthy, the accompanying person of the next patient was selected if the person was apparently healthy based on self-report. The subjects were assessed by a pre-tested questionnaire which included demographic variables, satisfaction with life scale and positive and negative experience after taking informed written consent. Satisfaction with life scale includes statements with response options from 1-7 on likert scale varying from strongly disagree to strongly agree. Positive and negative experience scale includes statements with response options from 1 to 5 on likert scale varying from very often or always to very rarely or never for each item. Participants were asked to fill the questionnaire themselves. This study was approved by the Institutional Ethical Committee of Maulana Azad Medical College, New Delhi.

Data were entered in MS excel sheet and analysis was done using SPSS version 17. Simple proportions were calculated for both the groups. Difference between two proportions was analyzed by chi square test and $p < 0.05$ was considered statistically significant.

RESULTS

The study was conducted among 170 subjects (85 disease group and 85 controls). Majority of the study subjects was aged 21 to 40 years (70.6% in test and control group each). 50.6% of the study subjects were males and 49.4% were females. There were no significant differences between patient and control groups in relation to gender,

age groups, income, job ($p > 0.05$). Table 1 shows the socio-economic and demographic distribution of the study population.

Table 1: Socio-economic and demographic distribution of study population.

Characteristics	Disease group N (%) (n=85)	Control N (%) (n=85)	'p' value
Age group (years)			0.36
≤20	5 (5.9)	9 (10.6)	
21-30	34 (40.0)	37 (43.5)	
31-40	26 (30.6)	23 (27.1)	
41-50	8 (9.4)	8 (9.4)	
51-60	4 (4.7)	6 (7.1)	
≥61	8 (9.4)	2 (2.4)	
Gender			1.00
Male	43 (50.6)	43 (50.6)	
Female	42 (49.4)	42 (49.4)	
Education			0.01
Illiterate	26 (30.6)	11 (12.9)	
Upto 10 th	29 (34.1)	25 (29.4)	
11-12 th	16 (18.8)	18 (21.2)	
Graduate	12 (14.1)	24 (28.2)	
Post-graduate	2 (2.4)	7 (8.2)	
Marital status			0.009
Unmarried	20(23.5)	35(41.2)	
Married	58(68.2)	50(58.8)	
Separated	4(4.7)	0(0)	
Widow/Widower	3(3.5)	0(0)	
Income /month (in Rs.)			0.32
0-5000	47 (55.3)	39 (45.9)	
5001-10000	20 (23.5)	20 (23.5)	
10001-15000	7 (8.2)	6 (7.1)	
≥15001	11 (12.9)	20 (23.5)	
Occupation			0.92
Unskilled	11 (12.9)	12 (14.1)	
Semi-skilled	13 (15.3)	13 (15.3)	
Skilled	21 (24.7)	24 (28.2)	
None	40 (47.1)	36 (42.4)	

With respect to educational status, a significantly higher number (30.6%) were illiterate in disease group as compared to 12.9% in control group ($p < 0.05$). Similarly, 68.2% were married among patients as compared 58.8% in control group ($p < 0.05$).

Table 2 shows the frequency of positive thinking among the disease group and controls in last 4 weeks prior to the data collection. 50.6% of participants among controls had significantly positive thinking always as compared to only 36.5% in patients ($p = 0.02$).

Table 3 shows the frequency of positive thinking of participants among different disease groups. There was

no significant difference between the different disease groups. Patients in the study were having chronic diseases including non-communicable diseases (Hypertension, Diabetes Mellitus, Chronic Obstructive Pulmonary Disease, and Cancers), asthma, migraine, depression, abdominal discomfort. Since this was a cross sectional study no causal association between positive thinking and diseases could be established and whether positive thinking prevent diseases or disease causes more negative thinking cannot be assessed from the study.

The association of lifestyle behaviour including tobacco smoking and chewing, alcohol consumption with positive thinking was also studied. There was no significant difference in positive/ negative thinking among smokers and non-smokers, those consuming alcohol and non-alcohol consumers. However, there was a significant relationship between negative thinking and tobacco chewing at least 7-25 times/day (50%). Similarly, there were no significant differences between gender, age groups, literacy, occupation with positive thinking.

Table 2: Distribution of positive thinking among the study subjects.

Group		Positive thinking					Total
		Very rarely or never	Rarely	Sometimes	Often	Very often or always	
Disease	Number	9	2	21	22	31	85
	%	10.6	2.4	24.7	25.9	36.5	100.0
Control	Number	0	2	18	22	43	85
	%	0.0	2.4	21.2	25.9	50.6	100.0
Total	Number	9	4	39	44	74	170
	%	5.3	2.4	22.9	25.9	43.5	100.0

$\chi^2 = 11.1, 4 \text{ d.f.}, p = 0.025.$

Table 3: Disease-wise distribution of positive thinking among patients and controls.

Diseases/control	Positive thinking					Total
	Very rarely or never	Rarely	Sometimes	Often	Very often or always	
Diabetes	0	0	1	0	1	2
Chronic respiratory disease	1	0	1	4	2	8
Migraine	0	0	0	0	2	2
Musculoskeletal disease	0	0	1	0	1	2
Cancers	1	0	0	2	0	3
Other disease	2	1	9	7	10	29
Hypertension	0	0	0	1	0	1
Coronary artery disease	1	0	5	2	6	14
Depression	0	0	0	0	1	1
Vision problems	1	0	0	0	0	1
Abdominal discomfort	3	1	3	6	7	20
Asthma	0	0	0	0	2	2
Control	0	2	19	22	42	85
Total No.	9	4	39	44	74	170
Percentage	5.3	2.4	22.9	25.9	43.5	100.0

DISCUSSION

The present study was conducted to find out the association of positive thinking with health status. A total of 170 subjects (85 in each disease group and control group) participated.

The study findings revealed that positive thinking was significantly higher among control (50.6%) as compared to disease group (36.5%) showing that persons with

negative thinking were associated with diseases. Similar findings have also been reported by a study conducted at University of Pittsburgh School of Medicine on 100,000 women where optimistic women were 30 percent less likely to die from heart diseases than pessimists and negative thinking women were 23 percent more likely to die from cancer.¹³

The probable reason of less association of positive thinking with diseases is explained by Carol Ryff,

University of Wisconsin/Madison. He observed, based on the findings of over 40 studies that optimism is associated with lower levels of stress hormones, lower inflammation, lower cardiovascular risk and a higher immune system.¹⁴

Another study by Gitlay et al among 999 men and women aged 65 to 85 years through elaborate questionnaire on optimism, self respect, morale, relations, and health found that optimists had about 55% lower risk from all causes and 23% lower risk of fatal heart failure.¹⁵

The present study did not find any association of positive thinking with lifestyle factors such as smoking and alcohol consumption. However, there was a significant relationship between negative thinking and tobacco chewing at least 7-25 times/day (50%). This could be probably related to the fact that tobacco chewers might be having physical or mental health problems leading to negative thinking.

CONCLUSION

The common diseases observed among the patients were chronic in nature. The chronicity of the diseases might be contributing to negative thinking. However, the present study has limitations. The sample size is small to find out the relationship between various diseases and positive/negative thinking. The responses on thinking process might not be present for a long time since it was assessed during the contact with the subjects for data collection. There is lack of studies from India which shows the relationship between the positive thinking process and disease status. The present study highlights the need for conducting more studies to find out the relationship between positive thinking and disease status.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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