



An Archival Data Analysis of Diagnosed Dysthymia on their Socio-Economic Condition

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ABSTRACT

Socio-economic condition plays critical role on mental illness. There is a controversy about association of Socio-economic condition and risk of persistent depressive disorder in prior studies. Aim of the current study is to examine pattern of socio-economic status of patients suffering from dysthymia available in the archived patient registrar. Archival data analysis is more challenging as data were already stored as per the hospital requirement and it is not manipulated by the researcher with respect to hypothesis. In DSM-5(APA2013), dysthymic disorder and major depressive episode were combined under the umbrella disorder of persistent depressive disorder (known as dysthymia also). Symptoms are- loss of interest in daily life, sadness or feeling down, hopelessness, low self-esteem, excessive anger, avoidance of social activities, sleep problems etc. Instead of traditional data analysis, this study followed data mining approach. The classified data of 126 dysthymic patients were retrieved from the data reservoir (N=480) using algorithm of R script. Patient records were stored in psychiatric department of one of the well-known PG hospitals in Kolkata. Retrieved data were cleaned and coded. One Socio-economic index score was prepared by averaging four correlates, namely, number of phones used $r(124) = 0.83, t=16.72, p<0.0001$, modes of communication $r(124)= 0.79, t=14.35, p<0.001$, toilet types $r(124)= 0.66, t=9.78, p<0.01$ and number of living rooms $r(124)= 0.57, t=7.79, p<0.01$. SES index score was classified in terms of quartiles. It is noted that there was no significant difference $\text{Chi-square}(1)=0.71, p<0.40$ between number of people with high (n=20) and low SES (n=15) indices. Findings are discussed in terms of change in socio-economic condition of people at large.

INTRODUCTION



Dysthymia:

Everyone feels sad sometimes and many refer to that sadness depression-but sadness and depression are not same thing. Situational sadness is fleeting, it does not interfere with the ability to function normally, and it goes away. when the sadness does not go away, when its every present and changes the way a person moves through the world, it is called Dysthymia.

The word dysthymia comes from the Greek roots ‘dys’, meaning “ill” or “bad” and ‘thymia’ , meaning “mind” or “emotion”. The term dysthymia and dysthymic disorder refer to a mild, chronic state of depression. People with dysthymia describe their mood as sad or ‘down in the dumps,’but it simply feeling more than sadness(National Institute of Mental Health, “Dysthymic Disorder Among Adults,”). They even find it difficult to be ‘upbeat’, at their good days.

Operational Definition of Dysthymia:

A chronic depression of mood which does not currently fulfil the criteria for recurrent depressive disorder, mild or moderate severity (F33.0 of F33.1), in terms of either severity or duration of individual episodes, although the criteria for mild depressive episode may have been fulfilled in the past, particularly at the onset of the disorder.

The balance between individual phases of mild depression and intervening periods of comparative normality is very variable. Sufferers usually have periods of days or weeks when they describe themselves as well, but most of the time (often for months at a time) they feel tired and depressed; everything is an effort and nothing is enjoyed. They brood and complain, sleep badly and feel inadequate, but are usually able to cope with the basic demands of everyday life. Dysthymia therefore has much in common with the concepts of depressive neurosis and neurotic depression. If required, age of onset may be specified as early (in late teenage or the twenties) or late (ICD 10).

In DSM-5(APA2013), dysthymic disorder and major depressive episode were combined under the umbrella disorder of persistent depressive disorder. PDD or persistent depressive disorder is also known as dysthymia.

Prevalence of Dysthymia:

Approximately one in every 20 people encounters dysthymia in their life time with lifetime prevalence rate of 3–6% (Sadock BJ, Sadock VA: Kaplan and Sadock’s Comprehensive



Textbook of Psychiatry (9th Edition) Lippincott Williams & Wilkins, MD, USA, 1647 (2009).

The prevalence of dysthymia is approximately 2 to 6 percent of the general population (Nardi AE. Estudo epidemiologico em distimia. J Bras Med 1997), (Akiskal HS. Dysthymia as a temperamental variant of affective disorder. Eur Psychiatr 1996) and is one of the most common conditions found in medical practice(Akiskal HS. Dysthymia: clinical and external validity. Acta Psychiatr Scand, 1994). These patients do not seek help (Griffiths J, Ravindran AV, Merali Z, Anisman H. Dysthymia: a review of pharmacological and behavioural factors.

Mol Psychiatry, 2000) or suffer their symptoms for long periods and generally consult clinical doctors with ill defined complaints such as general unwellness, lethargy and fatigue(Akiskal HS. Dysthymia: clinical and external validity. Acta Psychiatr Scand, 1994).

Dysthymia is common among individuals with a positive family history of major depression in first-degree relatives(Diagnostic and Statistical Manual of Mental Disorders (4th Edition). Text Revision. American Psychiatric Association, Washington, DC, USA,2000).

Patients of dysthymia are likely to develop a major depressive episode during the course of illness. Approximately 80% of the patients will be diagnosed with major depression in their lifetime(Long-term treatments of recurrent depressive disorders. Compr. Psychiatry 53, 32–44 ,1992), while 25–50% of the patients with major depression have comorbid dysthymia(Hirschfeld RM: Guidelines for the long-term treatment of depression. J. Clin. Psychiatry 55, 61–69 ,1994).

The lifetime prevalence of dysthymia has been reported in one study as about 2% in men and about 4% in women (Weissman MM, Leaf PJ, Bruce ML, et al. The epidemiology of dysthymia in five communities: rates, risks, comorbidity, and treatment. Am J Psychiatry. 1988 Jul). Another study reported lifetime prevalence of about 6%, with women also more frequently affected than men (Kessler RC, McGonagle KA, Zhao S, et al.)

According to the National Institute of Mental Health, 1.5 percent suffer from a dysthymic disorder. .

Symptomatology:

Depression symptoms associated with dysthymia are similar, but usually less intense, than symptoms of major depression. However, these symptoms, in which people fight feelings of low self-esteem, despair, and hopelessness, can still interfere with daily life, causing problems at



home, school, or work. Its mildness makes it difficult for people to pinpoint when their dysthymia began.

According to DSM 5, individuals must be experiencing five or symptoms during the same 2 weeks period and at least one of the symptoms should be either 1. Depressed mood, 2. Loss of interest or pleasure.

Everyone's symptoms are different, and can include:

- Feelings of sadness
- Feelings of hopelessness
- Fatigue
- Trouble concentrating
- Changes in sleep habits — oversleeping or not sleeping enough
- Changes in appetite — overeating or poor appetite
- Low self esteem

There is also a greater risk of other medical conditions, such as heart disease and diabetes. This is because of the physiological changes that occur when the body is in a constant state of stress, and because people with dysthymia are at greater risk of smoking and having an unhealthy diet.

Etiology:

Etiological factors of dysthymia.

1. Biological factors:

Genetic linkage, twin studies, neurochemical mechanisms

2. Sleep studies:

Increased rapid eye movement density and decreased rapid eye movement latency

3. Neuroendocrinological factors:

Involvement of the thyroid and adrenal axes

4. Psychosocial factors:

a. Difficulty in adaptation to adolescence and early adulthood

b. Conflict in oral and anal sadistic phase

c. Interpersonal disappointment in early life leading to defective ego development



5. Cognitive theory

Mismatch between reality and fantasy leading to decreased self-esteem

(Sadock BJ, Alcott V: Kaplan and Sadock's Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry (10th Edition). Lippincott Williams and Wilkins, MD, USA, 562–567,2007)

Socio-economic Status:

Socio economic status (SES) refers to an individual's position within a hierarchical social structure, which is one of the important determinants of health status.

Socioeconomic status is the social standing or class of an individual or group. It is often measured as a combination of education, income and occupation (American Psychological Association's Socio-economic Status Publication).

Socio economic status is typically broken into three levels (high, medium, low) to describe the places where an individual or family falls.

There has been a lot of discussion of late in the 20th country regarding the number of people living below the poverty line (BPL families). They vary from 42% and 26% in rural and urban India (Tendulkar SD. New Delhi: Government of India; 2009. Report of the expert group to review the methodology for estimation of poverty. Planning commission;). They also differ based on the different committees that had been formed to look into the problem. There is a need to identify the actual beneficiaries who will be benefitted by the government programs/subsidies.

social policy refers to guidelines, principles, legislations, and activities that affect the living conditions conducive to human welfare. Social policy is a tool applied by Government to regulate and supplement market institutions and social structures. Specific areas of Social policy are 1. the social objective of state policy, including those of economic growth; 2. the policy with regard to the promotion of social services as an integral part for a developing economy; 3. the policy governing promotion of social welfare service.

Various policies and programmes are run by the central and the state to empower, to protect elderly population and bring all around development of children and youths of the country.

Policies and Programme of government:

1. The Swarnjayanti Gram Swarozgar Yojana(SGSY) was launched in 1999, which is a holistic programme covering various aspect of self employment.



2. The Sampoorna Gramin Rozgar Yojana(SGRY) was launched in 2001 to provide additional wage employment in rural areas.
3. The restructured centrally sponsored Central Rural Sanitation Programme(CRSP) which was launched with effect from 1st April,1999 provides for the construction of sanitary latrines for rural households.
4. The Indira Awas Yojana(IAY) aims at providing assistance for the construction of houses for people below the poverty line in rural areas.
5. Mahatma Gandhi National Rural Employment Guarantee Act(MGNREGA) was launched on 2nd October,2009. The Act seeks to enhance livelihood security in rural areas by providing at least 100 days of guaranteed wage employment in financial year.
6. National Social Assistance Skill launched in 1995, is a centrally sponsored scheme aimed at providing financial assistance to the elderly, widows, people with disabilities in the form of social pensions.
7. Rajiv Gandhi Grameen Vidyutikaran Yojana was launched in 2005 for creation of Rural Electricity Infrastructure & Household Electrification for providing access to electricity to rural households.
8. Pradhan Mantri Gram Sadak Yojana was launched on 25 December, 2000 to provide good all-weather road connectivity to unconnected villages.

Predictor of Psychiatric Disorder:

Income refers to wages, salaries, profit, remuneration etc. Those who are from low economic families they focus on meeting immediate needs and do not accumulate wealth that could be passed on to future generation (Gollnick, Donna M & Chinn,Philip. (2013) Multicultural Education in a Pluralistic Society, Pearson.). Families with higher and expendable income can accumulate wealth and focus on meeting immediate needs along with consumption of wealth and luxurious life.

Education plays an important role in income. Those who are from higher levels of education they are associated with better economic condition. Even are in better psychological condition as they have more income, more control, and greater social support (Scott, Janny and Leonhardt, David. "Class Matters: A Special Edition." New York Times 14 May 2005).

On the other hand students of low economic families have achieved mostly lower and slower academic achievement.



Occupation refers social prestige by describing job characteristics, decision making ability and control, psychological demands of the job. Individuals with highly prestigious job feel powerful and their behaviour towards other is very strong. Psychologically they are very much fit. But, people who are from mediocre job they are usually unhappy with their job, unsatisfied and to some extent they are insecure and suffering from inferiority complex.

Socio-economic Condition and Dysthymia:

To date many studies evaluate the role of SES on dysthymia on the basis of individuals' income, education, social class, facilities and wealth.

According to American Psychological Association (2007) reported the impoverished families tend to have high risk towards mental disorder. The correlation between SES and Dysthymia has been extensively tested and it is observed that high rates of dysthymia upon socio-economic condition (Adler et al., 2000).

Depression has been found to be persistent across longitudinal studies in individuals from low socio-economic background (Melchior et al., 2013). It also observed that individual with low socio-economic background has tendency to miss days of work than other group of people (Ervasti et al., 2013).

Archival Data Analysis:

Archival data refer to information that already exists in someone else's files. Archives are often stored as paper files or on electronic storage – computer disks, CDs, DVDs, etc. – and may include photographs and audio and video recordings as well. It may also take the form of encoded information expressed in numbers, or in computer language. Computer files, of course, may include various media and text, all in the same place.

Why we use Archival Data:

1. It's easier and less time-consuming than collecting all the data on own.
2. Archival data may have already been processed by people with more statistical expertise.
3. Even with raw data, the basic organization and preparation (transcription of interviews,



entry of numbers into a spreadsheet or specific software, etc.) may have already been done, again saving time and resources.

4. It's quite possible that one can find more information than he had be able to gather if he did it on his own.
5. Archival data could touch on important areas that one has not considered, or identify patterns or relationships he wouldn't have looked for.
6. It may eliminate the need to correct for problems.
7. Archival data allows the possibility of looking at the effects of one works over time.
8. Archival data can make it possible for small organizations with limited resources to conduct thorough evaluation studies.

TABLE 1.

SES Variables	Frequency(f)	Percentage(%)
Roof Structure		
1. Brick	1. 64	1. 50.79
2. Non Brick	2. 62	2. 49.21
Wall		
1. Brick	1. 107	1. 84.92
2. Non Brick	2. 19	2. 15.07
No of living room		
1. 2 living rooms	1. 117	1. 92.86
2. more than 2 living room	2. 9	2. 7.14
Fire for cooking		
1. Oven	1. 63	1. 50
2. Upgraded oven	2. 63	2. 50
Toilet		
1. Scientific toilet	1. 70	1. 55.55
2. Unscientific toilet	2. 56	2. 44.45



Tap for drinking Water		
1. With tap	1. 93	1. 73.81
2. Without tap	2. 33	2. 26.19
Illumination		
1. With illumination	1. 25	1. 19.84
2. Without illumination	2. 101	2. 80.16
Telephone connection		
1. With Telephone connection	1. 41	1. 32.54
2. Without Telephone connection	2. 85	2. 67.46
Mode of communication		
1. Motor vehicle	1. 103	1. 89.68
2. Non motor vehicle	2. 13	2. 9.52
Home from bus route		
1. 2-3 k.m	1. 121	1. 96
2. more than 2-3 k.m	2. 5	2. 4

Results and discussion

Result should be interpreted in the light of archival data analysis. In archival data analysis data are collected from the archive. Therefore face to face interaction between researcher and respondent is not possible. In the current study, hospital registrar was used. In health service research, hospital registrar is reliable source of information about symptomatology, etiology and demographic conditions as these are written by the experts in the concerned area. Data were collected from well known post graduate hospital in Kolkata, managed by the Government of West Bengal.

Living conditions

Table 1 shows poor living conditions of the patient. They had brick built wall (85%) but roof



structure was not brick built (49%). They had single or double rooms (92%) but no electricity (81%). Most of them(96%) reported that they had house located 2-3 km away from the house. They were deprived of telephone connection (68%).

Through the different schemes of Government of India scientific toilets are arranged for the people with BPL categories possibly due to this reason 55% of the total respondents reported possession of the scientific toilets. One major scheme is Nirmal Bharat Abiyan.

Table 2. Intercorrelation matrix

Serial No	SES Variable	1	2	3	4
1	No. of Living Room	1			
2	Toilet	0.23**	1		
3	Mode of Communication	0.50	0.43	1	
4	No of Telephone used	0.22	0.46	0.42	1
5	Total	0.57	0.66	0.79	0.83

**p<0.01

Relationship

Table 2 shows all the measures of living conditions were significantly correlated with each other suggesting that improving quality of life with increase in socio economic conditions. Number of living rooms was highly correlated $r(124)=0.50, p<0.01$ with mode of communications as more persons of single family want different modes of communications. When there are more number of people in family and different modes of communications , family requires more number of



telephones. Possibly due to this reason, number of telephone used is more related $r(124)=0.42, p<0.01$. The total score of all the variables was correlated with the number of telephones $r(124)=0.83, p<0.01$ modes of communication $r(124)=0.79, p<0.01$.

Socioeconomic index

The average of correlated variables is the index of socioeconomic status. It ranges from 2 to 11. There was significant Chi-square (3) = 17.175, p-level = 0.0006506 difference across four levels (Ranges 2-3, 3-4, 4-7, 7-11) of the socio economic index that nullifies effect of errors on cut of points. 34% of the total respondents were under the median (Mdn=4).

Livelihood conditions of high and low SES

Variables	High		Low		Chi-square test
	frequency	%	frequency	%	



Number of Rooms				22.579, df = 2, p-value = 1.25e-05
1	8		32	
2	40		37	
3	9		0	
Toilet Type				59.291, df = 2, p-value = 1.334e-13
Unscientific	4		52	
Scientific without flush	52		17	
Scientific with flush	1		0	
Mode of Communication				45.143, df = 4, p-value = 3.713e-09
Walking	12		54	
Cycle	32		15	
Rickshaw	1		0	
Scooter	11		0	
Car	1		0	
Telephone at Home	16		69	73.572, df = 3, p-value = 7.332e-16
No Connection	3		0	
1 Connection	2		0	
2 Connections	36		0	
3 Connections				



Connections					
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There was significant Chi-square 22.579, $df = 2$, $p\text{-value} = 1.25e-05$ of the socio economic variable Number of Living Room. On the other hand, Chi-square 59.291, $df = 2$, $p\text{-value} = 1.334e-13$ of the socioeconomic variable Toilet Type also significant.

Chi-square value of Mode of Communication and Telephone at Home are 45.143, $df = 4$, $p\text{-value} = 3.713e-09$ & 73.572, $df = 3$, $p\text{-value} = 7.332e-16$ respectively, which are significant.

Communication is a way to keep in touch with others. Socioeconomic Index highlights that dysthymic patients are using telephone as a media to communicate with others and to release their stress from their life. They like to stay busy with telephones. On the contrary, it also shows that dysthymic patients used vehicle for their personal needs. They might like to explore several places and it gives them mental satisfaction also.

Conclusion:

The current study is conducted to examine the pattern of socio-economic status of patients suffering from dysthymia available in the archived patient registrar. From the analysis it can be said that dysthymic patients with high socioeconomic condition can cope with the environment.

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