Psychiatric morbidity in absentees in industry

Background: Absenteeism refers to a worker’s unscheduled absence from the workplace. Around the world, a large share of mental disorders can be attributed to work productivity losses. Despite industries working on improvement in employees’ wages, better work environment and improved health care to improve their mental health. Absenteeism continues to be a global burden. Aim: The aim of the study was to explore the factors influencing absenteeism. Materials and Methods: A sample size of 100 workers was selected and standardized, and reliable research tools were employed. Factors influencing absenteeism such as the sociodemographic factors, personality traits, psychiatric morbidity, family typology, and interactions were studied using relevant scales, i.e., Eysenck’s Personality Inventory and Family Typology by Batti and Channabasavanna. Results: Study found that absentees were more emotionally stable, whereas regulars were found to be emotionally unstable. Factors were found to be associated with absenteeism such as low income, 11–20 years of service, low mean neuroticism score, chronic physical disease, high psychiatric morbidity among the workers, egoistic and anomic family typology. This study reveals that a significantly higher proportion of absentees had a low pay scale. Paradoxically, a high proportion of absenteeism had a longer duration service, indicating that the low pay scales could have resulted from disciplinary actions against absentees, like loss of increments, etc. Conclusion: Psychosis, alcoholism, and chronic physical illnesses are among the illnesses which contribute to absenteeism.

Keywords: Absenteeism, alcoholism, industry, mental health, psychosis

Work is a process of social and economic change that directly affects the mental and physical health of human beings.[1] The Organization for Economic Co-operation and Development (OECD) has prioritized mental health as a new and pressing labor market challenge. Lifetime prevalence rate of 50% has been estimated in the working-age individual with a mental health burden by the OECD 2012.[2] Absenteeism is defined as the failure to report and stay at work due to any cause such as chronic ill-health, family issues, finances, and job dissatisfaction.[3] It is costly in terms of lost productivity to the employers. Absenteeism in an industry was a serious problem in the past and even now depending on what Industry an individual works. If it is an IT industry due to the pandemic, he/she has shifted the work to their homes which essentially excludes absenteeism hence it is necessary that we address this issue to those industries where physical presence is a necessity. While absenteeism cannot be eliminated totally, it can be reduced to a minimum by understanding and modifying the factors contributing to absenteeism. US employers collectively lose an estimated $260 billion annually as a result of poor employee health.[4] A review data from Liberty Mutual of U.S. Bureau of Labour Statistics reported annual losses of $100 billion linked directly to absenteeism. In a 2011, 36% of respondents estimated that absenteeism costs their organization at least $100,000 annually. Mercer has found that absenteeism costs can reach 35% of an employer’s payroll.[4-6] An ADP survey of decision makers in midsized, and large companies found that absenteeism has reduced productivity at 50% of midsized and 54% of
large companies; reduced profitability at 30% of midsized and 36% of large companies; and increased serviceable costs at 28% of midsized and large companies.\(^{[4,5]}\)

While this was true to a great extent, the loss of productivity due to the ongoing pandemic has been huge and cannot be gauged in terms of the economy that was ruined. It runs into trillions of dollars due to closure of all industries. An earlier study reported number of sickness leaves were greater for mental disorder than those for physical disorders. The duration of absence leave ranged from 5 to 119 days.\(^{[7]}\) Many psychological studies in the industrial population have focused to improve productivity in workers with the help of positive motivation, a better work environment, providing better health care facilities, etc.\(^{[8,9]}\)

Emphasis alone on emotional disturbances should not be attributed to absenteeism, other factors such as age, income, educational status, marital status, work hours, distance from workplace, promotion policies, peer and supervisor relationship, physical health, substance use/dependence, work environment, and climate and community condition should also be evaluated.\(^{[9]}\) Since no systematic study had been conducted in India to know the psychiatric morbidity alongside other contributing factors for absenteeism in the industry, this study was carried out to find out the prevalence of psychiatric morbidity, personality patterns, family typology, and family interactions in absentees in comparison to regular workers.

**MATERIALS AND METHODS**

The study was carried out at The Indian Telephone Industries (ITI) Bengaluru, one of the largest public sector industries after independence. Fifty absentees and fifty regular workers were selected to study the prevalence of psychiatric morbidity, personality profile, family typology, and family intersection in absentees as compared to regular workers in the industry.

**Selection of workers**

The Industrial Health Unit of ITI was contacted, and the list of absentees and regular workers from the Telephone division of the industry was collected as on date January 1, 1981. The following criteria for absenteeism were prepared:

1. The worker had availed all the available leaves
2. Although in service he has been absent from work without pay for varying periods
3. Those workers who have been absent for the past 1 year (October 1, 1980–September 30, 1981) – (both days inclusive), thus losing their pay.

The total strength of workers in this division was estimated to be 1995 and the total number of absentees was 226. From these 226 absentees, fifty randomly selected for the study using a random number table, and out of the remaining workers who were regular, 50 were randomly selected using the above table. The study was conducted for 6 months.

Prior permission was taken from the authorities, for data collection and the completion of the study. Data confidentiality was assured to the workers and the authorities were advised against any disciplinary action. Workers in need of any medical and psychiatric help were offered after the interview. The subjects were interviewed between 9.30 am and 5.30 pm, to have data from both shifts daily. To achieve full attendance, frequent reminders were sent to the subjects, especially for the absentees. Each worker was seen separately for an average duration of 1.5–2 h.

**Research tools used in the study**

**Indian Psychiatric Survey Schedule**

This is a structured interview schedule designed and standardized for use in the Indian setting, available in ten Indian languages. Symptoms in the checklist are those commonly reported in the Indian setting. The schedule has a 10-item section on historical information. There is a section for gathering information from a close relative. It is possible to elicit 26 somatic and 36 psychological symptoms, using an instruction manual giving a standard definition for the various symptoms.\(^{[10]}\) To encourage cooperation, more acceptable somatic items, sleep, appetite was asked before followed by delusions and hallucinations. Workers with somatic complaints were given a physical examination by a trained psychiatrist to exclude any physical pathology. A detailed medical history and physical examination were conducted and crossed checked with the medical records of every worker.

**Clinical interview**

Persons who scored 2 or more on Indian Psychiatric Survey Schedule section I were labeled as “Probable Cases” and a detailed psychiatric interview was carried out, and cases were confirmed and diagnosed based on the International Classification of Diseases.

**Eysenck’s personality inventory**

The Maudsley Personality Inventory, like the parent instrument, sets out to measure two major dimensions of personality, Extroversion-Introversion, Neuroticism-Stability.\(^{[11]}\) For, the present study, English, Kannada, Tamil, and Telugu versions were used. The Eysenck’s personality inventory (EPI) questionnaire was administered to the subjects individually. Instructions were read aloud when questions were collected after completion, care was taken to check that all the questions had been answered.
Family typology scale

This 28-item scale measures four typologies, namely, (i) normal cohesive type; (ii) egoistic type; (iii) altruistic Type; and (iv) anomic Type. High overall scores are indicative of pathology in the family.[12]

Family Interaction Pattern Scale

This scale was developed to measure the quality of family functioning. It depicts three types of interactional patterns: (i) cordial, (ii) indifferent, and (iii) antagonistic. The scale has 106 items under 6 domains (D): namely, D1 – reinforcement, D2 – social support system, D3 – role, D4 – communication, D5 – cohesion, and D6 – leadership. It is a four-point Likert scale ranging from 1 to 4, and the score varies from 106 to 424. A higher score shows dysfunction in that subdomain. The scale can measure the dysfunction in the families of alcoholic, hysterical, and depressive and thus established its validity. Its interrater reliability, and test–retest reliability is also established.[13]

The results of the study are presented in tabular form including sociodemographic data, comparing both the groups (absentees and regulars). The tests used for assessing significance are Chi-square test, Student’s t-test, and Fisher’s exact probability test. According to the labor department in India, the rate of absenteeism is calculated as the number of persons scheduled to work to the number actually present.

**RESULTS AND DISCUSSION**

Indian industries have been suffering due to absenteeism. Studies exploring this phenomenon are not many concerning systematic research. The present study has done comprehensive, a systematic study of the sociodemographic variables, of mental morbidity among absentees using structured questionnaires. This study reveals that a significantly higher proportion of absentees had a low pay scale [Table 1]. Paradoxically, a high proportion of absenteeism had a longer duration service [Table 2], indicating that the low pay scales could have resulted from disciplinary actions against absentees such as loss of increments. Earlier studies have also observed higher rates of absenteeism in workers with low income.[14] However, they have also observed absenteeism to be more common in those with shorter service. This latter finding could not be observed with the present study.

A significantly higher proportion of absentees were in the lower-income group. Workers with service of 11–20 years were overrepresented in the absentees. There was no significant difference between regulars and absentees concerning the type of family. On studying the family typology, comparison based on the mean scale score, the families of absentees had pathological characteristics. On analyzing the subtype of family, families of absentees had a higher frequency of egoistic and anomic type, whereas regular workers showed characteristics of a normal cohesive type of family [Table 3]. No significant observation was present on the family interaction scale between the two groups. Nearly 40% of workers reported ill health as an excuse for absenteeism in the present study.

Findings indicate that both absentees and regular had a normal range for extraversion-introversion scores on the EPI [Table 4]. Absentees have shown less mean neuroticism scores, indicating a tendency toward stability. Associating neuroticism as a cause of absenteeism, one can speculate that emotional stability (low neuroticism score) was achieved at the cost of occupational instability (absenteeism). This

**Table 1: Income of the employees**

| Income per month (Rs.) | Absentees (n=50), n (%) | Regulars (n=50), n (%) |
|------------------------|-------------------------|------------------------|
| 500-700                | 13 (26)                 | 3 (6)                  |
| 701-900                | 25 (50)                 | 62                     |
| 901-1100               | 12 (24)                 | 15 (30)                |
| Above 1100             | -                       | 1 (2)                  |

**Table 2: Length of service of the employees**

| Service (years) | Absentees (n=50), n (%) | Regulars (n=50), n (%) |
|-----------------|-------------------------|------------------------|
| Up to 10        | 4 (8)                   | 22 (44)                |
| 11-15           | 11 (22)                 | 9 (18)                 |
| 16-20           | 20 (40)                 | 7 (14)                 |
| 21-25           | 9 (18)                  | 8 (16)                 |
| 26-30           | 6 (12)                  | 4 (8)                  |

**Table 3: Family typology of the employees**

| Family type       | Mean (SD) Absentees (n=50) | Regulars (n=50) |
|-------------------|-----------------------------|-----------------|
| Normal cohesive type | 7.7 (3.17)                  | 6.3 (3.17)      |
| Egoistic          | 11.82 (3.9)                 | 9.92 (3.9)      |
| Altruistic        | 13.02 (3.18)                | 10.36 (4.3)     |
| Anomic            | 10.36 (4.3)                 | 6.88 (3.2)      |

Anomic and egoistic family typology found in absentees. SD – Standard deviation

**Table 4: Eysenck’s personality inventory of the employees**

| Personality dimension | Absentees (n=50) | Regulars (n=50) |
|-----------------------|------------------|-----------------|
| Extroversion - introversion | 10.66 (3.03)  | 11.14 (3.32)    |
| Range                 | 7.64-13.69       | 7.83-14.45      |
| Neuroticism - stability | 9.46 (4.94)    | 11.6 (4.68)     |
| Range                 | 4.52-14.4        | 6.93-16.27      |

SD – Standard deviation
might mean that absenteeism leads to relief from work stress, which in turn leads to emotional stability. While this hypothesis is attractive, it needs to be tested more rigorously. Absentees had a significantly lower mean neuroticism score than regulars [Table 4], which can also be explained based on Yerkes-Dodson law. The law states that at very low levels of anxiety performance is poor. Increase in level of anxiety produces an equivalent increase in performance. This can be regarded as a normal, healthy, or physiological state. Then follows a phase where performance has reached its maximum and an increase in anxiety does not improve performance any further. All drive states have to be at an optimum level in a healthy individual, reduction below or above this level is decremental biologically. The complete absence of anxiety is just as pathological as successive anxiety which is reflected in behavior or work.

The prevalence of psychiatric morbidity was estimated to be 46% for absenteeism and 20% for regulars in this study group [Table 5]. The figures are higher when compared to studies on the general population as well as studies on the industrial population.[15,16] A significantly higher proportion of absentees had a psychiatric illness. High rates of psychiatric morbidity in absentees have been reported earlier.[14-16] These studies however suffer from a lack of a control group, for the comparison. When individual diagnoses were compared, the proportion of neurosis in the absentees and regulars did not differ significantly, even though neurosis is the common diagnosis in industrial workers overall.[14] 30% of absentees had some form of neurosis. Psychosis, not surprisingly, had a higher representation in the absentees.

Sommeraur[17] had observed that absenteeism is in turn high in alcoholic workers. In a study done in the psychiatric department of an urban industrial hospital in Southern India, comorbid anxiety/depression was found in two-thirds of the employees in the absenteeism group and one-third of non-absentees had alcohol abuse or dependence as a strong predictor of absenteeism. Even our study found 10% of absentees had alcoholism while none in the regulars.[18]

A study shows that productivity losses due to common mental illnesses and cardiovascular diseases are high in a rural Indian setting. Productivity losses are common at unpaid (58%) and paid work (32%) and due to presenteeism (27.5%) at work were greater than those due to absenteeism (16.4%). In our study, eliciting causes for absenteeism, 40% of them used ill health as an excuse. A comparison was made to review the physical health of these workers concerning chronic illnesses. A significantly higher proportion of absentees suffered from physical morbidity. Only a negligible sample in either group had both physical and psychiatry morbidity indicating that physical illnesses could also be a major contributing factor for absenteeism. In summary, it appears that psychosis, alcoholism, and chronic physical illnesses are among the illnesses which contribute to absenteeism.[18]

At that time, this study was the first of its kind in the country had certain limitations. A finding has to be replicated with larger samples and other industrial populations and improved research methods which would throw more light in this area. The study has indicated that chronic physical illnesses, psychosis, and alcoholism contribute more heavily to absenteeism than neurosis or other social democratic variables. Thus, absentees should be screened for such major illness before being subjected to disciplinary action. Even though this study is 38 years old, it merits in exploring the sociodemographic factors, personality traits, psychiatric morbidity and family typology, and interactions, influencing absenteeism in industry, which is not explored in other recent studies. The sample size of 100 workers was selected and standardized, and reliable research tools were employed. Current literature, especially the Indian studies, has linked neurosis and alcoholism as the predicting factor for absenteeism in industrial workers, but this study correlated psychosis along with alcoholism as the contributing factors for a high prevalence of psychiatric morbidity among the absentees. Contrary to the expectations, in our study, absentees were more emotionally stable, whereas regulars were found to be emotionally unstable.

**CONCLUSION**

The following factors were found to be associated with absenteeism such as low income, 11–20 years of service, low mean neuroticism score, chronic physical disease, high psychiatric morbidity among the workers, egoistic and anomic family typology.

### Table 5: Prevalence of psychiatric illness in the employees

| Psychiatric illness                  | Absentees, n (%) | Regulars, n (%) | Total |
|-------------------------------------|------------------|----------------|-------|
| Psychiatric illness absent           | 27 (54)          | 40 (80)        | 67    |
| Psychiatric illness present          | 23 (46)          | 10 (20)        | 33    |
| Anxiety disorders                    | 3 (6)            | 3 (6)          | 6     |
| Depressive disorders                 | 6 (12)           | 4 (8)          | 10    |
| Phobic disorders                     | 1 (2)            | -              | 1     |
| Alcohol dependence                   | 5 (10)           | -              | 5     |
| Personality disorders                | 1 (2)            | -              | 1     |
| Residual schizophrenia              | 1 (2)            | -              | 1     |
| Alcoholic dependence + psychosis     | 10 (20)          | 1 (2)          | 11    |
| Neurosis and others                  | 13 (26)          | 9 (18)         | 22    |
Future scope
The alarmingly high prevalence for psychiatric morbidity in both the groups observed in this study calls for more active intervention and service facilities to be made available to the industrial workers.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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