



“Employee Attrition in the Pharmaceutical Industry: An Empirical Investigation of Contributing Factors”

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Abstract

The present study examined the impact of occupational stress on employee attrition in the pharmaceutical industry by analyzing various organizational and psychological factors. The study aimed to identify the major determinants influencing occupational stress and employee attrition among pharmaceutical employees. Primary data were collected using a structured questionnaire, and the hypotheses were tested through Structural Equation Modeling (SEM). The findings revealed that sales pressure, organizational procedure, and lack of organizational support have a significant positive influence on occupational stress. Among these factors, organizational procedure showed the strongest impact on employee stress levels. The study further identified that reward system and burnout significantly influence employee attrition, indicating that inadequate compensation, lack of recognition, emotional exhaustion, and mental fatigue increase employees' intention to leave the organization. However, workload, leadership nature, and occupational stress did not show a significant direct influence on employee attrition. The results suggest that occupational stress may indirectly contribute to attrition through burnout and dissatisfaction rather than directly affecting employees' decisions to resign. The study concludes that pharmaceutical organizations should focus on improving organizational support, simplifying procedures, strengthening reward systems, and reducing employee burnout to minimize attrition and improve employee well-being and organizational performance.

Keywords: Occupational Stress, Employee Attrition, Burnout, Reward System, Organizational Support, Pharmaceutical Industry, Structural Equation Modeling (SEM).

1. Introduction

Indian Pharmaceutical Industry forms one of the fastest-growing and prominent sectors in the Indian economy. At present, India is referred to as the 'Pharmacy of the World' due to its large scale manufacture of cheap generic medicines, vaccines, and active pharmaceutical ingredients (APIs). In 2023, the Indian pharmaceutical industry accounted for the third position worldwide in terms of volume and the 13th largest globally in terms of value. It is involved in the manufacture of more than 60,000 varieties of generic medicines in 60 different therapeutic categories and a large supplier of pharmaceutical products to the world markets. India holds a prominent position in the global healthcare industry since it caters to over 50 percent of the world's total vaccine requirement, 40 percent of the United States' total demand for generic medicines, and about 25 percent of the total medicines used in the United Kingdom. India is a prominent member of international agencies like UNICEF and WHO vaccine programmes where it contributes about 55-60 percent of UNICEF vaccines required, 99 percent of DPT vaccines required by WHO, 52 percent of BCG vaccines, and 45 percent of Measles vaccines.. Furthermore, more than 80% of antiretroviral drugs used worldwide for AIDS treatment are produced by Indian pharmaceutical companies. The Indian pharmaceutical sector has experienced remarkable growth over the years and has developed into a highly competitive and innovation-driven industry. It has recorded an average yearly compounded growth rate of 9.43% in the last ten years and is accountable for about 1.72% of the Gross Domestic Product of the country. According to the report from Bain & Company, the pharmaceuticals market in India was estimated to be US\$ 55 billion in 2025 and would further grow to US\$ 120-130 billion by 2030. Besides, the sector is considered one of the significant contributors to manufacturing GVA, FDI inflow, export revenues, and job creation. There are nearly 3,000 drug manufacturers and about 10,500 manufacturing facilities within the pharmaceutical industry in India. India leads the US FDA approved pharmaceutical plants outside the US and has more than 500 API manufacturers accounting for 8% of global API markets. The Indian pharmaceutical industry spans over many different sectors, including but not limited to generic drugs, over-the-counter drugs, vaccines, biopharmaceuticals, biosimilars, bulk drugs, contract research & manufacturing services. The booming of the pharmaceutical industry has generated many employment opportunities, including those in pharmacy, sales representatives, production staff, researchers, quality control personnel, and administrative jobs. However, the pharmaceutical industry is a highly competitive business with very clear goals, and thus high levels of job-related stress. Workload, sales pressure, strict regulations, constant pressure, and other related stress factors can significantly impact the health and organizational commitment of workers. These types of stress can ultimately result in employee burnout, job dissatisfaction, turnover intentions, and attrition. Hence, it is very important to understand occupational stress in order to enhance productivity, increase job satisfaction, organizational commitment, and minimize turnover rate among employees. Stress management strategies are required to keep the workforce healthy and ensure the sustained growth of the pharmaceuticals industry.

2. Theoretical background of the study

Knowledge about occupational stress in the pharmaceutical industry is theoretical, as obtained from research that explains how stress, organizational factors, job stress, and burnout affect employee attrition and turnover intentions. Human Resource Management Occupational stress is defined as the strain that employees face because of high demands, overload at work, role conflict, poor support from their peers, and unfavorable working environment. In the pharmaceutical industry, most of the jobs require workers to exert themselves all the time to meet job requirements, which leads to occupational stress and contributes to low retention rates of employees. According to Shabnaz & Sultana (2017), occupational stress has a very significant impact on the turnover intention of the pharmaceutical employees. The research indicated that organizational variables such as job stress, job security, career

advancement opportunities, organizational rewards, quality of work life, and job satisfaction play an important role in determining turnover intention among employees. Dissatisfaction from stressors weakens organizational commitment and loyalty among workers. Gaither, Kahaleh, Doucette, Mott, Pederson and Schommer (2008) provided a theoretical explanation that organizational factors such as role overload and role conflict are major causes of occupational stress among pharmacists. The study further stated that interpersonal relationships and organizational commitment significantly influence job satisfaction and turnover intention. Employees experiencing high stress and poor work-home balance were found to be more likely to leave the organization. Lan, Huang, Kao and Wang, (2019) emphasized that organizational climate, workplace burnout, and job stress are important theoretical dimensions affecting employee retention in pharmaceutical settings. Their findings showed that a healthy organizational climate positively improves retention, while stress and burnout negatively influence employees' willingness to remain in the organization. The study supports the idea that supportive workplace environments reduce stress and improve employee commitment. Nam, Han, Ah, and Yu (2026) theoretically linked occupational stress with turnover intention among hospital pharmacists. These stressors included the absence of rewards, high job demands, and unfair organizational systems. Employees who had low organizational support and heavy job demands had the tendency to become stressed and eventually resign from their jobs. According to Mohd Puad, Kassim and Azizan (2024), job stress and job satisfaction are key theoretical constructs which play significant roles in turnover intentions by community pharmacists. Moreover, the study highlighted the important role of work meaningfulness in mediating the effects of stress and organizational commitment. Thin, Nakpun, Nitadpakorn and Sorofman Kittisopee, (2022) conducted a systematic review which indicated that organizational commitment, job satisfaction, career commitment, organizational support perception, and work climate were the core theoretical constructs related to occupational stress and turnover intentions. This systematic review showed that job stress can affect the intention to leave the organization both directly and indirectly. Carandang et al. (2024) discussed burnout as an important theoretical concept of occupational stress. Emotional exhaustion and mental disengagement from work led to increased turnover intentions among pharmacists. Employees suffering from severe burnout tend to quit their employment due to low emotional and psychological well-being. The burnout phenomenon was further explored by John-Igbiele, Fowosere and Iyobhebhe (2023), who explained that the experience of burnout causes reduction in employee creativity, organizational commitment, and loyalty to the organization. It was concluded that it is important to implement burnout reduction interventions to decrease the tendency of quitting among pharmaceutical professionals. Kachi et al. (2020) demonstrated that occupation-based stress causes actual turnovers in their prospective cohort study. It was theoretically established that such aspects as high levels of stress in jobs, job strain, lack of organizational support and stress reactions significantly contribute to quitting intentions among employees. Zhang, Huang and Xi (2024) also indicated that barriers to self-improvement and professional growth lead to increased occupational stress among clinical pharmacists. It was theorized that lack of professional resources and self-improvement possibilities causes increased stress and lower job satisfaction among employees. Generally speaking, occupational stress can be theoretically explained by such factors as workload, burnout, organizational culture, role conflicts, lack of incentives, support, and career development prospects.. These stressors negatively affect job satisfaction, organizational commitment, and employee well-being, ultimately increasing employee attrition and turnover intention. Therefore, pharmaceutical organizations must adopt effective stress management strategies, supportive leadership practices, employee wellness programs, and fair reward systems to improve employee retention and organizational performance.

2.1 Sales Pressure

Heavy workload and sales pressure play an important role in contributing towards the stress at work for people working in the pharmaceutical industry. Occupational Psychology Role overload and role

conflict are some of the important organizational issues identified by Gaither et al. (2008) which increase the level of job stress among pharmacists and employees working in health care organizations. Similarly, according to Sania Zahra et al. (2018), high workload, job ambiguity, and pressure from organizational goals have significantly increased the intention of the employees to quit their job. The employees, particularly the medical representatives and sales executives, in pharmaceutical organizations are supposed to meet strict sales targets along with maintaining client relations. Such heavy workload results in high levels of psychological stress and turnover among the employees.

2.2 Lack of Rewards

The absence of rewards and unfairness in organizational policies are some factors that lead to job dissatisfaction and stress among employees. Nam et al. (2026) noted that the absence of adequate rewards, high job demands, and unfairness in organizational policies were highly significant predictors of turnover intention among hospital pharmacists. The perception of inequity among salaries, rewards, and promotion chances is likely to make workers become frustrated about the organization. Similarly, Shabnaz and Sultana (2017) have observed that low pay level, absence of rewards, and few chances for advancement are significant determinants of turnover intention among pharmaceutical workers.

2.3 Poor Organizational Climate and Lack of Support

An adverse organizational climate coupled with low managerial support adversely impacts the employees' well-being as well as increases occupational stress. According to Lan et al. (2019), there is a significant correlation between organizational climate, occupational stress, burnout, and employee retention in pharmacists. Organizational climate that is supportive helps increase employees' satisfaction while poor communication, unhealthy working relations, and lack of manager support contribute to lower satisfaction. As discussed by Thin et al. (2022) in their systematic review, perceived organizational support and working climate have been found to be key determinants of pharmacists' turnover intention. Lack of support from managers and superiors causes emotional stress and poor commitment among staffs, leading to attrition.

2.4 Burnout (Exhaustion and Mental Distance)

Burnout remains among the most critical repercussions of job-related stresses within the pharmaceutical sector. According to Carandang et al. (2024), employees who face high levels of burnout were significantly prone to exhibiting turnover intentions. Emotional exhaustion and disengagement from work were highlighted by Carandang et al. (2024) as two main burnout factors that increase staff's unwillingness to remain at the same organization. Also, John-Igbiele et al. (2023) mentioned that the phenomenon of burnout had a negative impact on such employee characteristics as their creativity, affective commitment, and organizational loyalty. Further, according to Yusnita & Gursida (2024), job burnout played a mediating role between stress and turnover intentions of the employees under analysis. It means that constant exposure to stressful environment leads to burnout through emotional exhaustion, psychological detachment, and lack of motivation, resulting in turnover intention.

3 Research methodology

In the current study, the simple random method is used to obtain the sample from the leading pharmaceuticals workers who are working in Tiruchirappalli District. In the current study, the number of the sample is determined 220 workers. To test hypotheses in this study, the present study uses the Structural Equation Modeling (SEM) but before the application of SEM all the necessary data processing have been done. In this regard, before implementing SEM, there are some preliminary tests which need to be taken into account. For instance, the reliability of the constructs is checked using

Cronbach's Alpha. Furthermore, validity testing is conducted to check whether measurement items can accurately measure the variables or not. Moreover, normality, multicollinearity, and outlier tests are also conducted to satisfy statistical assumptions. Then, for evaluating the measurement model, Confirmatory Factor Analysis (CFA) is applied.

H1 There is a significant relationship between sales pressure and occupational stress among employees in the pharmaceutical industry.

H2 Organizational procedure have a significant impact on occupational stress among pharmaceutical employees.

H3 Lack of organizational support significantly increases occupational stress among pharmaceutical employees.

H4 There is a significant relationship between high workload and employee attrition in the pharmaceutical industry.

H5 Reward system significantly affects employee attrition in the pharmaceutical industry.

H6 leadership nature significantly influences employee attrition in the pharmaceutical industry.

H7 Burnout (emotional exhaustion and mental distance) has a significant influence on employee attrition in the pharmaceutical industry.

H8 Occupational stress has a significant positive impact on employee attrition in the pharmaceutical industry.

Structural Equation Modeling (SEM),

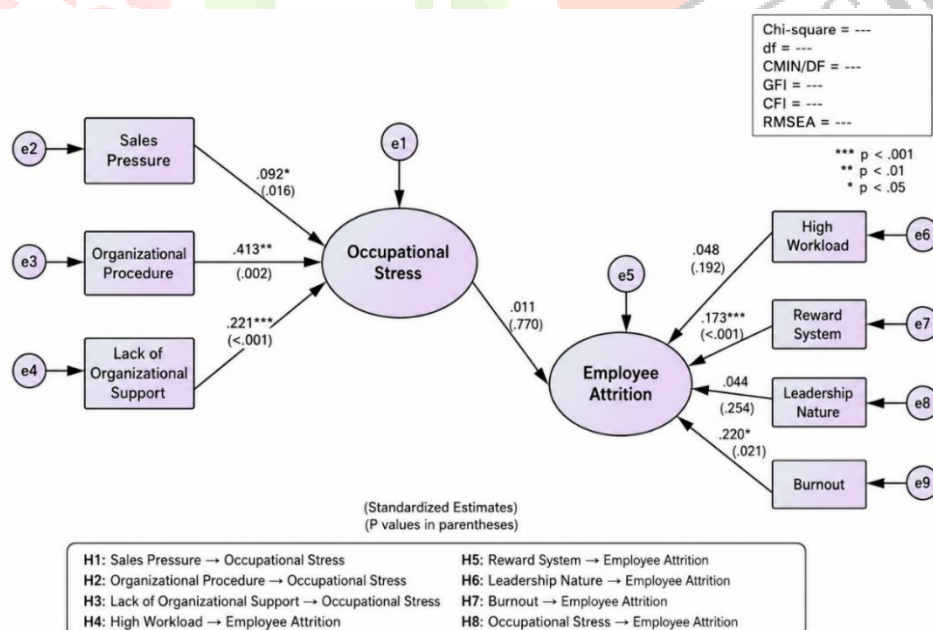


Table 1: Structural Model Results

	Endogenous variable		Exogenous variable	Estimate	S.E.	C.R.	P
H1	Occupational stress	<---	sales pressure	.092	.039	2.384	.016
H2	Occupational stress	<---	Organizational procedure	.413	.137	2.945	.002
H3	Occupational stress	<---	Lack of organizational support	.221	.037	5.914	***
H4	employee attrition	<---	high workload	.048	.036	1.289	.192
H5	employee attrition	<---	Reward system	.173	.042	4.105	***
H6	employee attrition	<---	leadership nature	.044	.038	1.166	.254
H7	employee attrition	<---	Burnout	.0220	.042	2.481	.021
H8	employee attrition	<---	Occupational stress	.011	.038	.279	.770

Source AMOS output

4 Results and interpretation

In this research, the impact of occupational stress on employee turnover in the pharmaceutical sector was investigated using various organizational and psychological constructs. SEM has been used to test the hypotheses developed for this study. The following discussion presents the results and conclusions drawn from each hypothesis. Human Resource Management According to the findings obtained, sales pressure has a significant positive relationship with occupational stress (Estimate = 0.092, $p = 0.016$). Since the calculated p-value is smaller than 0.05, the hypothesis has been accepted. As such, it can be concluded that employees who face sales pressures due to their strict targets and constant performance pressures experience high occupational stress. Employees in the pharmaceutical sector have to meet strict targets in the sale of drugs and maintain high performances in the market, which adds up to stress. It was found that organizational procedures affect occupational stress significantly (Estimate = 0.413, $p = 0.002$). Consequently, the hypothesis has been accepted. It means that organizational procedures and policies create frustration and dissatisfaction among workers leading to high stress levels. Organizational procedures include the administrative system that may pose challenges to employees, resulting in stress. Thus, the hypothesis is accepted. It means that the employees who are not provided with enough support, guidance, and motivation by the management suffer from more job stress. Organizational support plays an important role in dealing with workload and other challenges at work. It was observed that the high workload had no impact on attrition rates among employees (Estimate = 0.048, $p = 0.192$). Thus, since the p-value exceeds 0.05, the hypothesis was rejected. Even though there may be heavy workloads and pressures among employees, the latter factor itself does not necessarily lead to employee turnover. There may be other motivational and organizational variables which affect attrition. The study indicated that the reward system significantly affects attrition among employees (Estimate = 0.173, $p < 0.001$). Hence, the hypothesis was accepted. It proves that inadequate salaries, poor incentives, and lack of recognition result in higher attrition rates. The employees expect fair payment and recognition for their efforts. The nature of leadership had no impact on attrition. Hence, the hypothesis is rejected. This result suggests that leadership style alone may not directly influence employees' decisions to leave the organization. Employees may tolerate leadership differences if other organizational conditions are favorable. The analysis showed that burnout significantly influences employee attrition (Estimate = 0.220, $p = 0.021$). Since the p-value is less than 0.05, the hypothesis is accepted. This indicates that employees experiencing emotional exhaustion, mental fatigue, and psychological detachment from work are more likely to leave the organization. Burnout reduces employee commitment, motivation, and work satisfaction. The results revealed that occupational stress does not significantly influence employee attrition directly (Estimate = 0.011, $p = 0.770$). Therefore,

the hypothesis is rejected. This suggests that occupational stress alone may not directly lead employees to resign. However, occupational stress may indirectly contribute to attrition through factors such as burnout, dissatisfaction, and reduced organizational commitment.

5. Conclusion

Overall, the study concludes that sales pressure, organizational procedures, lack of organizational support, reward systems, and burnout are significant factors affecting occupational stress and employee attrition in the pharmaceutical industry. Among these variables, organizational support and reward systems play a crucial role in improving employee satisfaction and retention. The findings emphasize the importance of supportive work environments, fair reward systems, employee wellness initiatives, and stress management strategies to reduce occupational stress and minimize employee attrition in pharmaceutical organizations.

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