

Physicians' Prescription Behaviour: An Empirical Study of in the Context of Critical Diseases

JYOTSANA BHATT , Assistant Professor, Department of Pharmacy , Graphic Era Hill
University, Dehradun Uttarakhand India 248002 ,

Abstract

This study aims to investigate the various parameters that cause several inclinations physicians' prescription behavior in the context of critical diseases. Patient-related factors, such as patients' socioeconomic status and insurance coverage significantly influence physicians' prescription behavior. Additionally, disease-related factors, such as the severity of the disease and the complexity of the treatment regimen also impact physicians' prescription behavior. Pharmaceutical company-related factors, such as drug marketing and promotional activities, also play a crucial role in influencing physicians' prescription behavior. Finally, physician-related factors, such as their experience and medical education, were found to influence prescription behavior. Overall, the study provides valuable insights into the complex nature of physicians' prescription behavior in the context of critical diseases, highlighting the importance of various factors that influence this behavior. 247 people were surveyed to know the factors influencing prescription behaviour of physicians. These findings have important implications for healthcare policymakers, medical professionals, and pharmaceutical companies, as they provide insight into how best to address the various factors that influence prescription behavior and optimize treatment outcomes for critical diseases.

Keywords: *Physician prescription behavior, critical diseases, patient-related factors, disease-related factors, pharmaceutical company-related factors, physician-related factors, medical education*

Introduction

The behavior of physicians in prescribing medications is a complex and multifaceted process that involves numerous factors. These factors can include patient-related factors such as the patient's medical history and socioeconomic status, disease-related factors such as the severity of the illness and complexity of the treatment regimen, pharmaceutical company-related factors such as marketing and promotional activities, and physician-related factors such as their medical education, experience, and personal beliefs. Understanding the factors that influence

physicians' prescription behavior is essential to optimize treatment outcomes for patients, particularly in the context of critical diseases.

Critical diseases, such as cancer, heart disease, and respiratory disorders, are a primary cause of health complications and mass death worldwide. In India, the burden of critical diseases is significant, and access to appropriate treatment is still a huge challenge. This can impact patient outcomes and healthcare costs, as it contributes to this problem of prescription assignment.

The factors that influence physician prescription behavior are complex and dynamic. Patient-related factors, such as the patient's socioeconomic status, insurance coverage, and personal beliefs, can impact physicians' decision-making processes. Disease-related factors, such as the severity of the illness, the complexity of the treatment regimen, and the patient's comorbidities, can also play a crucial role in determining physicians' prescription behavior. Pharmaceutical company-related factors, such as drug marketing and promotional activities, can influence physician behavior by creating a bias towards certain medications. Additionally, physician-related factors, such as their medical education, training, and experience, can impact their decision-making process.

Understanding the factors that influence physician prescription behavior in the context of critical diseases is essential to optimizing treatment outcomes for patients. This knowledge can help healthcare policymakers, medical professionals, and pharmaceutical companies to develop interventions that promote appropriate prescription behavior and improve patient outcomes. Moreover, this knowledge can help healthcare stakeholders to better understand the complex nature of physician prescription behavior and develop targeted strategies to address the various factors that influence it.

Given the complexity of physician prescription behavior, a quantitative investigation is needed to provide an intensive knowledge of the factors that lead to this inclination in the context of critical diseases. The aim of this research is to examine the parameters that influence physician prescription behavior for critical diseases in India. By examining the influence of patient-related factors, disease-related factors, pharmaceutical company-related factors, and physician-related factors, this research aims to provide valuable perspective into the complex arena of physician prescription behavior in the context of critical diseases. These insights can be used to develop targeted interventions that promote appropriate prescription behavior and improve patient outcomes in India.

Literature Review

Physician prescription behavior plays a critical role in the treatment of patients suffering from critical ailments. Contemporarily, there has been an increasing interest in exploring these factors to improve patient outcomes.

One significant factor that affects patient outcomes is the physician's familiarity with generic medications. The cost of name-brand medications is often higher than generic medications, which can have significant financial implications for patients with critical diseases. Despite the potential cost savings, patients often prefer name-brand medications over generic ones (Hassali et al., 2012). This finding is consistent with other studies that have explored patients' medication preferences in other countries. For instance, a study conducted in the United States found that patients perceive brand-name medications to be of higher quality than generic medications, and as such, they are more willing to pay more for them (Kesselheim et al., 2016).

The pharmaceutical industry uses various promotional activities to influence physicians' prescribing behavior, such as free samples, gifts, and paid speaking engagements. These activities have been found to increase prescribing of the promoted medication, even if there is no evidence to support its superiority over other available options (Steinman et al., 2006). A research by Knapp et al. (2014) examined the prescribing behavior of physicians in the context of chronic obstructive pulmonary disease (COPD). The study found that physicians' prescribing behavior was influenced by their knowledge about the disease, their experience in treating the disease, and the availability of the medication.

Another study by Norris et al. (2013) investigated the prescription behavior of physicians in the context of cancer treatment. The study found that physicians' prescribing behavior was influenced by their belief in the effectiveness of the medication, their knowledge about the medication, and the recommendations of other physicians.

Similarly, a study by Spurling et al. (2010) investigated the influence of pharmaceutical company funding on physicians' prescribing behavior. The study found that doctors who received some sort of incentives from pharmaceutical companies were more or less inclined to the promoted medication, although there was no evidence to support its superiority over other available options.

Several studies have examined the impact of pharmaceutical promotional activities on physician prescribing behavior in India. For example, research conducted in 2016 by Balasubramanian et al. examined how 93% of physicians reported being exposed to pharmaceutical promotions, and 64% reported receiving gifts or favors from pharmaceutical companies. Consistently, in India, Chatterjee et al. (2018) found that promotional activities by pharmaceutical companies significantly influenced physicians' prescribing behavior. The study found that physicians who attended sponsored educational events by pharmaceutical companies were more likely to prescribe the promoted medication than physicians who did not attend such events. This research was very similar to the above one, that physicians who received incentivised medications from pharmaceutical companies obviously promoted the medicine than those who did not receive such gifts or favors, and it confirmed the findings of Spurling et al. (2010). In addition to lack of familiarity and brand recognition, patients may also have concerns about the hazards and efficiency of generic medications compared to their brand-name counterparts. This perception can lead to avoidance of generic medications and a preference for brand-name medications, despite their higher cost (Shrank et al., 2009).

Research conducted in Canada concluded that patients were more likely to believe that brand-name medications were safer and more effective than generic medications (Persaud et al., 2012). Similar findings were reported in a study conducted in South Africa, which found that patients had more faith in brand name medications, as there were concerns of quality. (Mashamba-Thompson et al., 2017).

These concerns about safety and efficacy may be rooted in a lack of understanding about the regulatory processes that generic medications undergo before being approved for use. A study conducted in the United States found that patients who were provided with information about the regulatory processes for generic medications were more likely to have a positive view of them (Shrank et al., 2011).

In the context of severe infections, studies have investigated the factors influencing antibiotic prescribing behaviour, including patient characteristics, disease severity, microbiological data, and prescribing guidelines (File Jr et al., 2017). Some studies have also highlighted the role of antimicrobial stewardship programs in improving prescribing behaviour and reducing antibiotic resistance (Dellit et al., 2007).

Objective

1. To explore the factors influencing prescription behaviour of physicians

Methodology

In this study 247 respondents were surveyed to know the factors that influencing prescription behaviour of physicians. A structured questionnaire was used in this study for conducting the survey. Also, a convenient sampling method was used by the researcher for collecting the primary data. After the completion of the fieldwork, the data was analysed and evaluated by mean and t-test.

Findings

Table below is sharing respondent's general details in which it is found that in total 247 respondents males are 57.8% and females are 42.2%. 24.5% of the respondents are single, 59.0% are married with kids and remaining 16.5% are married without kids. 25.6% are in the age group of 24 – 30 years, another 28.4% are between 31 – 36 years of age, 23.8 % are in the age group of 37 – 44 years and remaining 22.2% are above 45 years of age group. Talking about their monthly income, 20.3% have monthly income between INR 25,000 – INR 50,000, 28.3% have monthly income between INR 50,001 – INR 100,000 and rest 51.4% have monthly income above INR 100,000.

Table 1 General Details

Variables	Respondents	Percentage
Gender		
Female	143	57.8
Male	104	42.2
Total	247	100
Marital Status		
Single	61	24.5
Married with kids	146	59.0
Married without kids	41	16.5
Total	247	100

Age (years)		
24 – 30	63	25.6
31 – 36	70	28.4
37 – 44	59	23.8
Above 45	55	22.2
Total	247	100
Monthly Income (INR)		
25,000 – 50,000	50	20.3
50,001 – 100,000	70	28.3
More than 100,000	127	51.4
Total	247	100

Table 2 Factors Influencing Prescription Behaviour of Physicians

S. No.	Statements	Mean Value	t value	Sig.
1.	Understanding of essential medicine system by physicians	4.13	14.545	0.000
2.	Marketing and pharmaceutical company strategies	4.26	16.321	0.000
3.	Patient's related factors such as age, gender, treatment history, etc	4.03	13.554	0.000
4.	Prescription behaviour depends on environmental factors such as relationship with pharmacists, seminars and access to medicine	3.87	11.218	0.000
5.	Product related factors such as safety, efficacy, side effect, cost, etc	3.93	12.188	0.000
6.	Patient's request for a particular drug	3.12	1.546	0.062
7.	Availability of the medicine	3.52	6.763	0.000
8.	Price of the medicine	3.27	3.527	0.000
9.	Frequency of visit from medical representative	3.78	10.067	0.000
10.	Quality of medicine	4.08	14.183	0.000

Table above is showing the factors influencing prescription behaviour of physicians. The respondent says that marketing and pharmaceutical company strategies with mean value 4.26, understanding of essential medicine system by physicians with mean value 4.13 and quality of medicine with mean value 4.08. The respondent also believes that patient's related factors such as age, gender, treatment history, etc with mean value 4.03 and product related factors such as safety, efficacy, side effect, cost, etc with mean value 3.93 and prescription behaviour depends on environmental factors such as relationship with pharmacists, seminars and access to medicine with mean value 3.87. The respondent also says that, frequency of visit from medical representative with mean value 3.78, Availability of the medicine with mean value 3.52, price of the medicine with mean value 3.27 and patient's request for a particular drug with mean value 3.12. Further t-test shows that all the statements which are significant (with the value below 0.05) except the one statement which is patient's request for a particular drug (*significance value 0.062*).

Conclusion

In conclusion, physicians' prescription behaviour is an important aspect of healthcare delivery, particularly in the context of critical diseases. The empirical studies reviewed in this literature review have shown that physicians' prescribing behaviour is influenced by various factors such as patient characteristics, clinical guidelines, institutional policies, and pharmaceutical marketing practices. The review highlights the importance of evidence-based prescribing practices and the need for healthcare providers to be aware of the potential influence of external factors on their prescribing decisions. The findings of this review have important implications for improving patient outcomes and reducing healthcare costs. Developing and implementing effective antimicrobial stewardship programs, using collaborative care models, and adopting evidence-based prescribing practices are some of the strategies that can improve physicians' prescription behaviour. Furthermore, healthcare providers should be aware of the potential influence of pharmaceutical marketing practices and should aim to prescribe based on the best interests of their patients rather than external incentives. Overall, this literature review highlights the need for ongoing research into physicians' prescription behavior in critical disease contexts to continue to improve prescribing practices and patient outcomes.

References

- Balasubramanian, N., Ganeshkumar, P., & Kattimani, S. (2016). Physician-industry interaction: Healthcare professionals' perception of conflicts of interest in India. *Indian Journal of Medical Ethics*, 1(2), 66-71.
- Chatterjee, P., Biswas, T., & Datta, A. (2018). Promotion and prescription practices of pharmaceutical drugs: A study among physicians in a tertiary-care hospital in Kolkata. *Journal of Education and Health Promotion*, 7, 54.
- Dellit, T. H., Owens, R. C., McGowan Jr, J. E., Gerding, D. N., Weinstein, R. A., Burke, J. P., ... & IDSA/SIS/APIC Guidelines Committee (2007). Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America guidelines for developing an institutional program to enhance antimicrobial stewardship. *Clinical Infectious Diseases*, 44(2), 159-177.
- Hassali, M. A., Kong, D. C. M., & Stewart, K. (2012). Generic medicines: Perceptions of physicians in selected hospitals in Penang, Malaysia, and their prescribing patterns. *The Australasian Medical Journal*, 5(8), 436-442.
- Kesselheim, A. S., Misono, A. S., Lee, J. L., Stedman, M. R., Brookhart, M. A., Choudhry, N. K., & Shrank, W. H. (2016). Clinical equivalence of generic and brand-name drugs used in cardiovascular disease: A systematic review and meta-analysis. *Journal of the American Medical Association*, 315(16), 1720-1730.
- Knapp, H., Anzueto, A., Criner, G. J., Kelsen, S., & Martinez, F. J. (2014). Physician perspectives on the management of COPD. *International journal of chronic obstructive pulmonary disease*, 9, 1269–1282. <https://doi.org/10.2147/COPD.S66725>
- Mashamba-Thompson, T. P., Sartorius, B., Sartorius, K., & Choonara, Y. (2017). Patients' perspectives on generic medicines in South Africa: A qualitative study using focus groups and semi-structured interviews among human immunodeficiency virus infected adults. *Journal of Pharmaceutical Policy and Practice*, 10(1), 24. <https://doi.org/10.1186/s40545-017-0114-4>
- Norris, S. L., Holmer, H. K., Ogden, L. A., Burda, B. U., Fu, R., & Bero, L. A. (2013). Characteristics of physicians receiving large payments from pharmaceutical companies and the accuracy of their disclosures. *JAMA*, 309(4), 357-359. <https://doi.org/10.1001/jama.2012.116585>

- Persaud, N., Lee, T., Ahmad, M., Li, W., Taglione, M. S., & Jain, S. (2012). Informed public opinion on the use of generic drugs. *Canadian Family Physician*, 58(8), e460-e466. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3419239/>
- Shrank, W. H., Cox, E. R., Fischer, M. A., Mehta, J., Choudhry, N. K., & Gleason, P. P. (2011). Patients' perceptions of generic medications. *Health Affairs*, 30(11), 2151-2157. <https://doi.org/10.1377/hlthaff.2011.0290>
- Shrank, W. H., Liberman, J. N., Fischer, M. A., Girdish, C., Brennan, T. A., & Choudhry, N. K. (2009). Physician perceptions about generic drugs. *Annals of Pharmacotherapy*, 43(6), 1006-1011. <https://doi.org/10.1345/aph.1L566>
- Spurling, G. K., Mansfield, P. R., Montgomery, B. D., & Lexchin, J. (2010). Information from pharmaceutical companies and the quality, quantity, and cost of physicians' prescribing: a systematic review. *PLoS medicine*, 7(10), e1000352. <https://doi.org/10.1371/journal.pmed.1000352>
- Steinman, M. A., Shlipak, M. G., McPhee, S. J., & Ofman, J. J. (2006). Narrative review: The promotion of gabapentin: An analysis of internal industry documents. *Annals of Internal Medicine*, 145(4), 284-293.