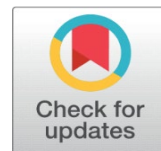


IMPACT OF MEDICAL REPRESENTATIVES ON ACCEPTANCE OF HIGH-PRICED PRESCRIPTION DRUGS BY DOCTORS: A STUDY



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ABSTRACT

Do rapport and information have any bearing on doctors' preference for high priced products? This was the study undertaken by me. Doctors in urban areas usually do not have the time to develop rapport with the medical representatives and as a result should not accept high priced products. On the other hand, information too will not influence prescription of high-priced products because they depend upon peer advice, seminars and conferences and evaluation tests. The situation among rural doctors is different wherein they should welcome medical representatives and their information and develop a rapport with them and thereby prescribe high priced products. However, it was seen that developing a rapport was not enough for rural doctors to prescribe high priced products as they looked into the affordability of their patients first. However, information was accepted and even high-priced products were prescribed by doctors. On the other hand, urban doctors were not influenced by either rapport or information and depended on conferences, seminars, peer advice and evaluation tests before prescribing high priced products. The study was conducted on 200 urban doctors and 200 rural doctors in Goa. A personal interview was conducted wherein the questionnaire was direct and structured. Pearson's coefficient of correlation was used to determine if information and rapport had any correlation with doctors prescribing high priced products.

Keywords: Prescriptions, Information, Rapport, Medical Representative, Brands

1. INTRODUCTION

In today's world there exist many pharmaceutical products which are high priced. It is not always possible for doctors especially in the rural areas to prescribe such products. However, there are a large number of doctors who will not hesitate to prescribe high priced products. [Guire et al. \(2009\)](#). Taking this into consideration could companies use rapport and information to get doctors to prescribe high priced products.

Rapport and information and their effect on price was what I wished to study. Medical representatives visit doctors and develop a rapport with them. Does this rapport translate into prescribing high-priced products? It should in the case of rural doctors who like to meet medical representatives and should not hesitate to prescribe high priced products. [Workneh et al. \(2016\)](#).

Similarly, information is something that rural doctors long for and find it in medical representatives. [Mikhael and Alhilali \(2014\)](#). Rural doctors as such do not go for many seminars, workshops or conferences and their knowledge of recent trends and advances is met through the medical representatives. They

should prescribe high priced products when provided with information of the same by medical representatives.

Urban doctors on the other hand do not necessarily desire either rapport or information because they are usually much busier and do not have time to entertain medical representatives. Moreover, they attend more conferences, seminars, workshops and depend on these findings as well as on peer advice and on evaluation tests results.

The study was conducted on 200 rural doctors and 200 urban doctors. Companies introduce many high-priced products and then expect the medical representatives to get doctors to prescribe them. Giving information and developing a rapport with doctors often is something that medical representatives try out to get doctors to prescribe their products. Once the product is prescribed then it stays on the pen of the doctor for a long time. Giving information and developing a rapport with doctors helps the product to be reinforced in the mind of the doctor. In this way even a high-priced product will be prescribed if reinforced.

2. LITERATURE REVIEW

The literature review was conducted to find out if information or rapport with doctors had any effect on doctors being indifferent to price of brands marketed to them.

[Workneh et al. \(2016\)](#) did a study in Mekelle, Northern Ethiopia wherein of the ninety physicians approached in the study, 40 (48.2 percent) of the physicians believed that their prescribing decisions were influenced by visits of medical representatives (MRs). This was almost fifty percent of the doctors showing the importance of medical representatives in generating prescriptions from doctors through regular visits, rapport and their communication skills.

The importance of rapport with doctors was further highlighted by Ghosh, K.R and Ghosh, M.S (2010) wherein they felt that of the different methods to promote a drug, developing a rapport with a doctor could be a great way. Once a rapport is developed between the medical representative and the doctor then the doctor will be obliged to prescribe at least some of the drugs promoted to him by the medical representative.

The study of [Malhotra et al. \(2004\)](#) says that, "Pharmacy graduates were more likely to influence prescription writing by the physicians than PCR's with other educational backgrounds. Communication skills of the PCR's were considered to be the single most important attribute in drug promotion by PCR's" (pg 97-106). It showed that communication skills coupled with sound education and knowledge could help a medical representative to communicate the message in a clear and correct manner as compared to a person who is not knowledgeable in the subject in question.

According to [Macit et al. \(2016\)](#) who conducted a study on brand loyalty wherein their findings were as follows. "85 percent of the 18 physicians from the Cardiology department felt that scientific literature regarding the drug as their first priority while prescribing and another 45 percent declared that clinical trials resulted as a primary source of information". The study proved that doctors laid high importance to scientific literature and results of clinical trials. In fact a doctor today will also consider peer reviews before prescribing a product.

Further in another study by [Mikhael and Alhilali \(2014\)](#), it was found that doctors accepted a drug depending on the information which the Medical Representative gives. The study showed that the MR could influence the physician to a large extent through his detailing during his visits in prescribing drugs even to

the extent of prescribing new medications. As a result, information could lead to also prescribing high priced products. A medical representative who cannot provide the desired information to a doctor should not be embarrassed to tell a doctor that he or she does not have the desired information but should be ready to find out and get back to him. Then the medical representative in his next visit should provide the information. In this way he or she could build the trust with the doctors.

[Ingole and Yegnanarayan \(2011\)](#) conducted a study between medical students and pharmaceutical companies. Their study included 253 medical students who were made to answer a questionnaire containing 18 questions. The findings were such that it was found that medical students felt that 95% of the information provided by medical representatives was reliable and 75% felt that confirmation of what was told to them by the medical representative was not essential. This proved that medical students were more prone to accepting the information of medical representatives as compared to senior doctors. Students as such long for information from medical representatives. A brand spoken about to them will have a long-lasting impact on the doctor as compared to a brand spoken to a consultant who has met many a medical representative and is more knowledgeable.

And finally, [Jones et al. \(2001\)](#) felt that GPs were largely influenced by the information provided by medical representatives. This is not to say that they also prescribe the drugs promoted by medical representatives but the probability of prescribing a drug by them is much higher than consultants who may not necessarily rely on medical representatives' information.

[Guire et al. \(2009\)](#) conducted a study on price of a brand and prescription pattern. 102 medical and surgical non consultant hospital doctors and consultants in two University teaching hospitals were chosen for the study. Their findings showed that, "68 percent felt that cost was an important factor in prescribing, yet 88 percent were unaware of the costs. Barely 33 percent has access to drug costs and 3 percent were formally educated about the same" (pg 277-280). This showed that many doctors were unaware of the cost of the products which they prescribe and if educated they could prescribe in a better manner.

[Allan et al. \(2007\)](#), found out that doctors were as such not aware of the cost and overestimated cheap drugs and underestimated expensive drugs. This may have been on account of a number of reasons and even if the medical representative wore expensive clothes this may have had an effect on the perception of the doctor with respect to the price of the drug.

This thereby proves that a lot has to be done in educating doctors about the price and not only about the functions and use of the drug. Many a time a medical representative will be hesitant to reveal the price of a drug, especially if it a high-priced product. Rather the doctor must be convinced about the benefits of the product and a cost benefit analysis must be undertaken to convince the doctor into prescribing the product.

[Dixit et al. \(2014\)](#) conducted a study on 156 doctors. Their study was based on the factors which make a doctor prescribe a brand from a number of brands. 25.64 percent of the doctors felt that cost played an important factor while prescribing.

[Sharma \(2012\)](#) too felt that cost or price was an important factor while prescribing as seen from his findings where a number of doctors ranked cost high on the scale. He did a study on 100 doctors in western Uttar Pradesh wherein the respondents were made to give marks out of 10 for different factors and later the average marks were calculated to determine the importance of the factor in prescribing behavior. Price of the drug was ranked high in many cases.

3. OBJECTIVES

- 1) To find out rapport or information have any influence on the doctor's prescriptions of high-priced products among urban doctors.
- 2) To find out if rapport or information have any influence on the doctor's prescriptions of high-priced products among rural doctors.

4. RESEARCH DESIGN

A direct, structured questionnaire was utilized wherein a personal interview was conducted on 200 urban doctors and 200 rural doctors of Goa. The research design was of an exploratory design.

Research Design: Exploratory design- It is a design used for acquiring information needed to structure or solve problems. It is used to determine the unknown.

Type of Sampling: Judgmental sampling- The sample was selected depending on the researcher who felt that the sample selected was representative of the population in question

Sample size: 400 doctors (200 urban doctors and 200 rural doctors) from Goa

Sample area: Goa

Type of interview: Personal- The researcher personally interviewed the respondents.

Techniques used to analyze the data: Karl Pearson's coefficient of correlation. Method of the technique is described in the findings.

Type of questionnaire: Structured direct- a formal questionnaire wherein non disguised questions were asked.

Type of questions: Multiple choice (several set of alternatives from which the respondent has to rank them) and open-ended questions (questions having no limit of words in answering) were asked

5. FINDINGS

The Karl Pearson's coefficient of correlation method which is as follows was also used:

"Whenever two variables of the same group are related so that the increase or decrease correspond to the increase or decrease to another or conversely, they are said to be correlated. In Pearson's the coefficient of correlation is r". Source: (Gupta and Gupta (2005), Business Statistics) "The formula for computing Pearson's r is

$$r(\text{correlation coefficient}) = \frac{\sum X_i Y_i}{\sqrt{(\sum X_i^2 \times \sum Y_i^2)}}$$

Where r = Pearson's coefficient of correlation

$X_i = x_i - \text{Mean}$ $Y_i = y_i - \text{Mean}$

x_i = value of the individual variable from 1-200 y_i = value of the individual variable from 1-200 (Gupta and Gupta (2005), Business Statistics)

“The values which lie between less than or equal to 0.5 or greater than or equal to 0.9 can be interpreted as follows. ≤0.50 Very low, 0.51 to 0.79 Low, 0.80 to 0.89 Moderate, ≥0.90 High (Good)” Source: (Gupta and Gupta (2005), Business Statistics)

It was conducted on the following:

1) Correlation between rapport of medical representatives and acceptance of price by urban doctors:

$$r(\text{correlation coefficient}) = \frac{\sum X_i Y_i}{\sqrt{(\sum X_i^2 \times \sum Y_i^2)}}$$

$$\begin{aligned} \text{Mean of urban rapport} &= 2.61 & \text{Mean of urban price} &= 4.06 \\ &= 19.68 / \sqrt{(327.58 \times 573.28)} \\ &= 19.68 / \sqrt{(187,795.06)} \\ &= 19.68 / 433.35 \\ &= 0.045 \end{aligned}$$

There is a very low positive correlation between rapport of medical representatives and acceptance of price by doctors from urban areas.

2) Correlation between information from medical representatives and acceptance of price by urban doctors.

$$r(\text{correlation coefficient}) = \frac{\sum X_i Y_i}{\sqrt{(\sum X_i^2 \times \sum Y_i^2)}}$$

$$\begin{aligned} \text{Mean of information} &= 1.77 & \text{Mean of price} &= 4.06 \\ &= -76.24 / \sqrt{(335.42 \times 573.28)} \\ &= -76.24 / \sqrt{(192289.57)} \\ &= -76.24 / 438.50 \\ &= -0.173 \end{aligned}$$

There is low negative correlation between desiring information from medical representatives and acceptance of price by urban doctors.

3) Correlation between accepting rapport of medical representatives and acceptance of price by rural doctors:

$$r(\text{correlation coefficient}) = \frac{\sum X_i Y_i}{\sqrt{(\sum X_i^2 \times \sum Y_i^2)}}$$

$$\begin{aligned} \text{Mean of rural rapport} &= 3.085 & \text{Mean of rural price} &= 2.76 \\ &= -86.92 / \sqrt{(337.555 \times 478.48)} \\ &= -86.92 / \sqrt{(161513.31)} \\ &= -86.92 / 401.88 \\ &= 0.2162 \end{aligned}$$

There is a low negative correlation between desiring rapport of rural doctors and acceptance of price.

4) Correlation between desiring information from medical representatives and acceptance of price by rural doctors.

$$r(\text{correlation coefficient}) = \frac{\sum X_i Y_i}{\sqrt{(\sum X_i^2 \times \sum Y_i^2)}}$$

Mean of rural information= 2.905 Mean of rural price = 2.76
= -174.56/√(478.48 x 695.195)
= -174.56/√(332636.9)
= -174.56/576.74
= - 0.3026

There is an almost medium negative correlation between desiring information by rural doctors from medical representatives and acceptance of price.

6. CONCLUSIONS

- 1) There is a very low positive correlation between rapport of medical representatives and acceptance of price by doctors from urban areas. This is because urban doctors do not depend on medical representatives' rapport but depend on conferences, peer advice and evaluation tests results.
- 2) There is low negative correlation between desiring information from medical representatives and acceptance of price by urban doctors. This is also because urban doctors depend on peer advice, seminars conferences and evaluation tests results.
- 3) There is a low negative correlation between desiring rapport of rural doctors and acceptance of price. This could be because doctors in rural areas may accept rapport with medical representatives but be hesitant to prescribe high priced products.
- 4) There is an almost medium negative correlation between desiring information by rural doctors from medical representatives and acceptance of price. This is because doctors in rural areas do not attend much seminars or conferences and depend on medical representative information to prescribe even higher priced products.

7. LIMITATIONS OF THE STUDY

- 1) The study was conducted on 400 doctors. As some questionnaires were found to be incomplete or wrongly filled up, they were discarded and new doctors were selected.
- 2) Some other tools and techniques could have been used. However, Karl Pearson's coefficient of correlation was found to be sufficient.

8. SUGGESTIONS

A year later the same study can be conducted and the results can be compared for consistency.

9. IMPACT ON THE INDUSTRY

- 1) It is found that rapport does not play a major role in getting doctors to prescribe high prescription products. However, rapport is important to get doctors to get doctors to prescribe a product, so companies should encourage their medical representatives to maintain a good rapport.
- 2) In rural areas there is some acceptance by doctors to prescribe high priced products with the information provided by medical representatives. This should be taken forward and the medical representatives must be encouraged to provide the doctors with information of high-priced products.

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