ABSTRACT

This abstract gives concise information of the complete thesis. The contents in this brief summary would help the reader to understand the contents of the thesis in a nutshell. Although this abstract is a gist, however, a detailed research and thoroughness of the whole thesis is hard to be found in the abstract.

This study entitled “Role of pharmacists’ in patient’s healthcare through retailing – with special reference to Mumbai and Nashik” had been done keeping certain important aspects into consideration, viz, role of community pharmacies is studied across two cities, Mumbai and Nashik. Pharmacy has various synonyms. Pharmacists’ duty and the pharmacy practice differ from country to country. An attempt has been made by the researcher to explore the role of pharmacist working in the pharmacy, and also patient’s views about the working of pharmacy.

Various chapters in the thesis are as under:

1) **Introduction:**
Chapter 1 is an introductory chapter which deals with the research background explaining the practice of pharmacy, concept of health, pharmacist engaged in traditional work. The rationale of study, explains how the researcher started to have a feeling that the role of pharmacist working in the pharmacy needs to be redefined, how the scope of pharmacists in today’s world includes patient centered care as core and all associated functions as aspects of pharmaceutical services. Further this chapter gives an elaborate history of pharmacy, a glimpse of profession of pharmacy and opportunities in pharmacy practice, further the concept of seven star pharmacist, pharmaceutical retailing, how community pharmacy link with pharmacy practice, and good pharmacy practice followed by certain nations are given in detail. Few definitions related to the variables and pharmacist role as a professional sales person and still how pharmacy profession is in search of a role is mentioned in this chapter.
2) Literature Review:

Literature review was conducted extensively by the researcher for the current topic. This search was done from online databases as well as physical libraries. Literature review included 74 very relevant research papers from both National and International journals. 8 books relevant to the topic were scrutinized and 3 theses were referred. The review covers around 23 years from 1990 to 2013. This review, thus, covers the time period and geographical distances, Indian studies were very few in numbers and few of them were empirical. This emphasizes the need for such exhaustive and empirical based study which will be truly valuable contribution to the field of knowledge.

Chapter 2 gives a detailed review of literature done by the researcher. In this chapter the researcher had compiled various literatures into certain common headings. In this process the researcher has studied national as well as international journals, books, newspapers, internet and other media for the information which was shared by different researchers on the role of pharmacists, patient healthcare, and services provided by pharmacists through pharmacies. In this chapter, researcher had complied how pharmacists perceive their role in the pharmacy and what is the evolving role of pharmacists. Further various pharmacy services and value added services were studied by the researcher. An important part of the review was on patient’s (consumer) views on pharmacists and patient’s (consumer) views on satisfaction with services in community pharmacies. Further review on recent studies in India on role of pharmacists and researcher’s conceptual map on the role of pharmacist explaining how the researcher has gone through this research is mentioned.

3) Research Methodology:

This chapter explains in detail the research design and methodology used by the researcher. The formulation of the research question and subsequently proceeds to set out the objectives that had driven this research is explained. These objectives helped to articulate the statement of hypothesis of this research. Below mentioned are important parts of Chapter 3 of the thesis.

3.1 Research Question: How should Pharmacists deliver services to manage patient’s health through medical stores and enhance business in their respective pharmacy retail
stores? Considering this major question, the research focuses particularly on meeting the following objectives and testing hypothesis and thus makes an attempt for meaningful contribution to the existing body of knowledge.

3.2 **Objectives of the Research:**

- To study the role of pharmacists’ in patient’s healthcare through pharmaceutical retailing.
- To compare and explore the range of value added services that the pharmacists offer to the patients at Mumbai and Nashik.
- To identify the common indications where patients approach pharmacy at Mumbai and Nashik.
- To study patients perceptions, experiences and expectations from pharmacists and pharmacies.

3.3 **Statement of Hypothesis :**

- There is no significant difference in the perception of pharmacists on the parameters related to better patient care at Mumbai and Nashik.
- Services offered by pharmacists are independent of education of pharmacists, experience of pharmacists, location of pharmacy and category of pharmacy.
- Visit of patient to pharmacy for medication on various indications is independent of age of patient and education of patient in Mumbai and Nashik.
- There is no specific preference amongst patients on value added services offered by different pharmacies in Mumbai and Nashik.
- There is no specific preference indicated by pharmacists for resources their patients use to get accurate information regarding medications.

3.4 **Research Design:** The research done was Exploratory and Descriptive in nature. The research design was based on both Qualitative and Quantitive approach. In the qualitative study, In-depth interviews were conducted with pharmacists and also, In-depth interviews were conducted with patients. In the quantitative approach, the tool used for this survey was a questionnaire. There were two questionnaires, one for the pharmacists and the
other for the patients. These were then pretested and further changes were done in both questionnaires. After conducting field survey, pilot study was undertaken, for both cities, for both questionnaires.

3.5 **Design of Questionnaire:** For Pharmacists Questionnaire: Self-developed questionnaire. There were few questions taken from 13 item questionnaire survey carried out in the Pharmacy Practice Research Resource Center (PPRRC), Manchester 1994, with few questions related to the research were taken from pharmacists questionnaire developed by Dr.Carmin Jane Gade(Carmin, 2003). For Patient’s Questionnaire: Self-developed questionnaire. There were few questions taken from Community Pharmacy Patient Questionnaire (CPPQ), which was formerly referred to as Patient Satisfaction Questionnaire, with few questions related to the research were taken from patient’s questionnaire developed by Dr.Carmin Jane Gade(Carmin, 2003).

3.6 **Reliability and Validity:** In the research, reliability was to be judged with a scale which produces consistent results as repeated measurements are to be made on the pharmacists’ factors which were selected. The internal consistency/reliability were measured by Cronbach alpha. The scores were 0.776 for which indicated satisfactory internal consistency/reliability for various constructs. Since the study is done by field survey using questionnaire and with factor analysis as one of the component of study, construct validity used has addressed the question of what construct or characteristic the scale is measuring. Also construct validity measured by the nature of the construct and the relation of one construct with the other will justify the validity measure of researcher’s study.

3.7 **Sampling Design and Sample Size:**

The Universe for the study was Pharmacy (Retail medical stores) in Mumbai and Nashik cities and Patients (Individuals) living in Mumbai and Nashik. Population for the study was Pharmacies: There are 7000 pharmacies in Mumbai and 1250 pharmacies in Nashik. Patient population: The population of Mumbai is 1.8 crores and that of Nashik is 15 lakhs. (Government of India, 2011). The Sampling frame was Pharmacy (Retail medical
stores) in Mumbai and Nashik and Patients (Individuals) living in Mumbai and Nashik. The Sampling unit was Pharmacists working in Medical stores in Mumbai and Nashik and Patients (Individuals) living in Mumbai and Nashik. The Sampling method used by the researcher was Random purposive sampling for both Pharmacists and Patients.

**Sample size:** Pharmacists: 300 Pharmacists working in pharmacy retail stores in Mumbai city. 100 Pharmacists working in pharmacy retail stores in Nashik city. Total 400 samples. Patients: 300 Patients (Individuals) living in Mumbai city. 100 Patients (Individuals) living in Nashik city. Total 400 samples.

The researcher was conducted with two cities. Mumbai city was selected as Mumbai is a metropolitan city and Nashik city was selected being a Tier II city. This was done to compare the perception of pharmacists and patients, compare the type of value added services provided by the pharmacists and the experiences and expectation of patients from pharmacists and pharmacies.

**Time period for data collection:** The data was collected within a span of 17 months from March 2011 to August 2012 for both pharmacists and patients from both Mumbai and Nashik cities.

**3.8 Data Collection Instrument:** Research approaches being quantitative, field research methods like survey methods were used. The questionnaires were administered in face to face interaction with the respondents. This interaction was carried out by researcher and used to collect and analyze both the pharmacist’s response and the patient’s response.

**4) Analysis of Data:**

Chapter 4 deals with the data analysis. There were five hypothesis in the study. The research done was exploratory and descriptive in nature. The hypothesis was then tested by descriptive research using appropriate statistical tests. This research tried to describe the relation of pharmacists and patients healthcare. Factor analysis was done initially to study the perception of pharmacists on offering better patient care.

Purpose of the first hypothesis was to compare the difference in the perception of pharmacists on parameters related to better patient care at Mumbai and Nashik. The statistical test used was ANOVA test. A 14-items scale was used to study the perception
of pharmacists on offering better patient care. There were 14 sub hypothesis which were tested.

Purpose of the second hypothesis was to find out whether a systematic association exists between the services offered by pharmacists with education of pharmacists, experience of pharmacists, location of pharmacy and the category of pharmacy at Mumbai and Nashik. The statistical test used was CHI SQUARE test. This hypothesis had six most common services offered by pharmacists in pharmacy. This hypothesis had four parameters. There were 48 sub hypothesis which were tested. For pharmacists in Mumbai there were 24 sub hypothesis and for pharmacists in Nashik there were 24 sub hypothesis. Above mentioned six common services offered by pharmacists in pharmacy were cross tabulated with four parameters.

Purpose of the third hypothesis was to find out whether a systematic association exists between the visit of patient to pharmacy for medication on various indications with the age of patient and education of patient in Mumbai and Nashik. The statistical test used was CHI SQUARE test. This hypothesis had ten common indications for patient’s visit to pharmacy. This hypothesis had two parameters. There were 40 sub hypothesis which were tested. For patients in Mumbai there were 20 sub hypothesis and for patients in Nashik there were 20 sub hypothesis. Above mentioned ten common indications were cross tabulated with two parameters.

Purpose of the fourth hypothesis was to find out the difference on specific preference amongst patients on value added services offered by different pharmacies in Mumbai and Nashik. The statistical test used was FRIEDMAN statistical test. This hypothesis had five value added services offered by pharmacists in pharmacy. As the study was in two cities, two different statistics were analyzed.

Purpose of the fifth hypothesis was to find out the difference on preference indicated by pharmacists for ten resources their patients use to get accurate information regarding medications in Mumbai and Nashik. The statistical test used was FRIEDMAN statistical test. As the study was in two cities, two different statistics were analyzed.
5) **Findings, Conclusions and Recommendations:**

Chapter 5 collates and consolidates the findings of the research and conclusions based on proving the hypothesis and also recommendations suggested by the researcher. The findings, conclusions and recommendations were based on four important captions viz. Role of pharmacists in patient’s healthcare, Value added Services offered by pharmacists for patient’s healthcare, Health issues and pharmacies approached and Patients perception, expectation and experiences from pharmacists and pharmacies.

**Summary Findings:**

- The study indicates the best factor used for the role of pharmacists in Mumbai should be on Counselling by pharmacists. The best factor used for the role of pharmacists in Nashik should be Counselling and Knowledge of Pharmacists.

- Percentage of pharmacists offering services in Mumbai and Nashik,

<table>
<thead>
<tr>
<th>Services</th>
<th>% of pharmacists in Mumbai providing services</th>
<th>% of pharmacists in Nashik providing services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health services like screening</td>
<td>12%</td>
<td>11%</td>
</tr>
<tr>
<td>Keep fact sheets like prescription information</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>Rapid refill over phone</td>
<td>39%</td>
<td>20%</td>
</tr>
<tr>
<td>Display information about medical camps</td>
<td>35%</td>
<td>26%</td>
</tr>
<tr>
<td>Make medicine available if not in the pharmacy</td>
<td>67%</td>
<td>89%</td>
</tr>
<tr>
<td>Substitute brands after asking the doctor</td>
<td>59%</td>
<td>86%</td>
</tr>
</tbody>
</table>

- There is no relationship between both age and education of patients in Mumbai and patients visit to pharmacy first to get medicines for indications like headache, cough/cold and body ache/backache. There is no specific age group but more educated (degree and post graduates) patients in Nashik prefer visiting pharmacy first for indications such as headache, cough/cold, backache/body ache, diarrhea/dysentery, low grade fever, Indigestion/flatulence, vomiting.
• Youngsters (age group 18 to 27 years) and more educated (degree and post graduates) patients in Mumbai prefer visiting pharmacy first for indications such as headache, cough/cold, backache/body ache, diarrhea/dysentery, low grade fever, Indigestion/flatulence, vomiting.

• The findings of the study are, patients perceive doctor as the most resourceful person patients use to get accurate information regarding medications.

• There is a specific preference amongst patients on services offered by different pharmacies in Mumbai. There is a specific preference amongst patients on services offered by different pharmacies in Nashik.

• Patients in Mumbai expect home delivery of medicines is the most preferred service amongst patients when it comes to services offered by different pharmacies in Mumbai. Patients in Nashik expect accurate information on medicines is the most preferred service and also answering all doubts related to medicines offered by different pharmacies in Nashik.

Conclusions:

• Patient counselling by pharmacist and pharmacist knowledge about medicines are the important for the pharmacist. These factors, if used appropriately by pharmacists in the medical stores would help them to enhance their businesses.

• Pharmacists’ role in providing services in both the cities is negligible. Pharmacists in both cities are not providing services to the patients on health services, filling fact sheets, displaying information on medical camps. Also, pharmacists should play an active role in rapid refill over phone, substituting brand after asking doctors and making brands available if not in the pharmacy.

• Findings reveal that in Mumbai youngsters (age group 18 to 27 years) and educated (degree and post graduates) patients prefer visiting pharmacy first for indications such as headache, cough/cold, backache/body ache, diarrhea/dysentery, low grade fever, Indigestion/flatulence, vomiting. This could be because youngsters (age group 18 to 27 years) are less matured and are less serious about health issues. This indicates educated people visit pharmacy first for minor indications.
• Findings reveal, in Nashik there is no particular age group preference of visiting pharmacy first for certain low involvement diseases. This could be because youngsters may be consulting their parents. In Nashik educated (degree and post graduates) patients prefer visiting pharmacy first for certain low involvement diseases. This indicates educated people visit pharmacy first for minor indications.

• Patients from cities, Mumbai and Nashik feel the most important parameter to take care of is hygiene for the pharmacists and pharmacies. After hygiene pharmacists and pharmacies should work on reducing the waiting time of the patients.

• Patient’s expectations from pharmacists are minimal, in such circumstances if pharmacist offer value added services they will stand apart from those pharmacists who do not offer such services.

**Suggestions:**

• Findings suggest that the major respondents (patients) are well educated (either graduate or post graduate) in both cities, but the major problem is literacy about medications. Often the patients would hesitate to ask questions regarding medications on their own to the pharmacists. Patients should be educated to get their problems solved by pharmacists regarding accurate information regarding medications.

• There is also a need to educate pharmacists at regular intervals. Pharmacists should update their knowledge while practicing in their pharmacies. Pharmacists perceive themselves knowledgeable; however they do not transmit their knowledge to patients while dispensing medicines. If done it would help them to enhance the business.

• Government of India should make Good Pharmacy Practice and start implementing it through the pharmacists working in the pharmacies. Standard Operating Procedures need to be followed by pharmacists, like counselling to all patients and providing information related to prescribed medications.
- The need for pharmacists in Mumbai is to start offering health services like B.P check, blood sugar check. The need for pharmacists in Nashik is to start offering primary services like rapid refill of prescriptions by phone to patients, should display information about medical camps, and should start substitution of brands after asking doctors.

- Media plays an important role in the awareness of the patients towards a particular disease/disorder. Patients in both cities should get themselves literate by reading information about minor disease/disorder through Internet, Television, Books and other reading material.

- Patients approaching pharmacies for medication on various indications should be comforted by the pharmacists and pharmacists should give information regarding medicines. The role of caregiver should emerge first than the role of dispenser.

- The need is to make the patients aware about pharmacists. Patients should consider pharmacists as their friend and should discuss all health related issues. This would make patients more comfortable and enhance their quality of life. Patients have to understand that product may not have any impact on health but any medication would have a direct impact on their health.

**Contribution to Pharmacy Retail:**

- Retail services mentioned in the research could be adopted by pharmacists in Mumbai and Nashik.

- This research will give healthy inputs to businessmen who wish to open new pharmacy stores in Mumbai and Nashik.

- Those already in the business of pharmacy can enhance businesses of existing pharmacies.

Taking all points into account, pharmacists in Mumbai and Nashik or persons who want to start business can edge out the competition or can do better than their counterparts.
Limitations of Research:

- The present study is confined to the geographical limits of Mumbai and Nashik corporation limits and the respective pharmacies in the selected areas. Same is the case for patients. Research was conducted in only two cities and these results cannot be projected throughout India.
- Indian “Psyche” of ‘knowing all’ attitude may be one of the limitations of getting frank responses from respondents.
- The research was undertaken in retail pharmacies which form a major chunk of pharmacies, but hospital pharmacy angle is not explored.
- In addition, research has only services angle is explored in detail.

Future Scope of Research:

- In the near future, researchers can extend this study to other metropolitan cities, mini metro cities as well as other towns of India.
- This study is related to community pharmacy only; further study can be done on hospital pharmacies. Also further study can be done on comparing the role of pharmacists in community versus hospital pharmacy.
- Apart from the services angle, other angles like human resources, distribution as well as strategies related to pharmaceutical retail can be explored.
- Remuneration of pharmacists as compared to the services provided by pharmacists is also an area of exposure to be considered.

Mr. Chandrashekhar Suresh Kaushik  
Research Student

Dr. Mrs. Sarita T. Aurangabadkar  
Research Guide