

Impact of chronic disease assistance program on the retail pharmacy sector: A retrospective study

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ABSTRACT

Objective: To assess the impacts of chronic disease assistance program (CDAP) on economic parameters, human resource and pharmacy structure and pharmaceutical care on the retail industry in Trinidad and Tobago. **Materials and Methods:** A partially perceptual retrospective investigation was carried out in 60 pharmacies from all regions (North East, North West, Central and South) in Trinidad. Questionnaires were distributed to all pharmacists of the each pharmacies indicated above. The validated questionnaires were distributed, over a period of approximately 2 weeks. Pharmacists employed at each pharmacy were asked to complete the questionnaire which consisted of 11 questions based on the three aspects of investigation. A five-point Likert scale (1 = strongly disagree, 5 = strongly agree) was used. Information from the completed questionnaires was tabulated in Microsoft Excel and the respective percentages and proportions were generated. **Results:** From the 60 pharmacies, 61% ($n=37$) believed that there was a decrease in sale of original brands while more than half of the respondents [53% ($n=32$)] believed there was an increase in sale of generics. The 60% ($n=36$) respondents viewed that there was compromised dispensary sale of original brands while 65% ($n=39$) felt there was increased orders for generic drugs. Of the CDAP prescriptions, it was disclosed that there was an overall increase in CDAP prescriptions from the year 2005-2008. A medium-scale pharmacy disclosed 1801 prescriptions in 2005, 2265 prescriptions in 2006, 3002 prescriptions 2007 and 3344 prescriptions in 2008 with overall increase in each year. **Conclusions:** The implementation of CDAP can explain the phenomenal increase in sale of generics drugs and the decrease in the sale of brands. There is a need for such a program in the developing countries.

Key words: Chronic disease, retail pharmacy, prescription

INTRODUCTION

The Republic of Trinidad and Tobago is an archipelagic

state in the southern Caribbean, lying northeast of the South American state of Venezuela and south of Grenada in the Lesser Antilles. The country covers an area of 5,128 square kilometers (1,979 sq mi) and consists of two main islands, Trinidad and Tobago, and numerous smaller landforms. There are approximately 1.3 million inhabitants present on the islands.^[1,2]

Currently there is a mixed system of state and privately owned pharmacies in Trinidad and Tobago. Medication can be accessed through four types of pharmacies: Private community

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pharmacies which make up more than 70% of all pharmacies, private hospital pharmacies that provide medication mainly to in patients in their facilities, public community pharmacies (Health Centers) that cater to the needs of ambulatory patients and public hospital pharmacies that are located in the state-run hospitals and provide medicines for variety of patients including in-patients, out-patients as well as patients in polyclinics.^[2,3] Medicines available from dispensaries within polyclinics (public/private hospitals and public community pharmacies) and private community pharmacies are managed by pharmacists and pharmacy assistants. Information obtained from the Ministry of Health and the Pharmacy Board indicates that there are over 280 pharmacies in Trinidad and Tobago, placing the pharmacy to population ratio at approximately 1:3037. Pharmacies are, however, unevenly distributed, with a being heavily concentrated in the cities.^[2,4]

The Chronic Disease Assistance Program (CDAP) is a program shuttled by the Ministry of Health intended to assist all citizens of Trinidad and Tobago with free prescription drugs and other pharmaceutical items to treat the following health conditions like diabetes, asthma, arthritis, glaucoma, cardiac diseases, high blood pressure, mental depression, thyroid diseases, benign prostatic hyperplasia (enlarged prostate), epilepsy, hypercholesterolemia and Parkinson's disease.^[5]

Over 250 pharmacies throughout the country make available the medications through it.^[5] In February 2003, the government of Trinidad and Tobago under the Ministry of Health launched CDAP. With its introductory 20 pharmaceutical items, CDAP aided in reducing the burden of cost of drugs to chronically ill patients. The primary objective of the program is to reduce the burden on the pharmacies and patient waiting time at the public health institutions by immediately providing approximately 230 additional dispensing facilities across the country. To date the Ministry of Health expanded the program even further to include all citizens of Trinidad and Tobago with an increased list of 37 pharmaceutical items. Pharmacists who are not owners face another dilemma with owners and/or managers in delivering pharmaceutical care to the patients that include the link of the professional with the pharmacy and the rejection of the service by pharmacy managers and owners due to the high content of daily work and lack of time to dedicate the service. In the above-mentioned scenario there is an increased responsibility on pharmacists to assure the provision of medications which are safe, therapeutically correct and effective.^[6,7] The aim of the current study is to assess the impact of CDAP on the retail industry in the aspects of economic parameters, human resource and pharmacy structure and pharmaceutical care.

MATERIALS AND METHODS

The study was carried out in all the regions of Trinidad

and study design was partially perceptual and prospective. Initially, 14-item questionnaire was developed and given for the evaluation to the experts ($n=21$) like clinical pharmacists, hospitals pharmacists and faculty members in pharmacy colleges in Trinidad and India. After 1 week their comments were obtained, as per comments, suitable corrections were made in the questionnaire and at last 11-item questionnaire was finalized.

The validated questionnaire was distributed to approximately 60 pharmacies throughout Trinidad inclusive of all regions (North East, North West, Central and South). This was done over a period of 2 weeks. Each pharmacist employed at the pharmacies was asked to read the questionnaire completely and fill in properly. A pharmacist working in more than one pharmacy was noted to avoid replication.

The questionnaire consisted of 11 questions based on the three aspects of investigation. A five-point Likert scale (1 = strongly disagree, 5 = strongly agree) was used. Information from the completed questionnaires was tabulated in Microsoft Excel and the respective percentages and proportions were calculated.

RESULTS

The results were done both from the perspective of the pharmacy and the distributing company. The pharmacy perspectives were determined from the questionnaire.

Pharmacy perspective

Economic parameters assessed for sales of generic and original brands, sales of other related dispensary items and orders to wholesalers for generic brands. The 61% ($n=37$) of pharmacist believed there was a decrease in sale of original brands while 53% ($n=32$) believed there was an increase in sale of generics. The 60% ($n=36$) of them viewed that there was compromised dispensary sale of original brands, while 65% ($n=39$) believed that there was increased orders for generic drugs.

For human resource requirements and structural changes the parameters assessed were staff requirement, functional delegation and training and structural changes in dispensary. For all of these factors it can be clearly seen that there has been agreement by all pharmacists/pharmacy proprietors to a significant value of over 50%.

More than half of the respondents [64% ($n=38$)] addressed the need for increased staffing. The 53% ($n=32$) of pharmacists believed that there was increased functional delegation of staff within dispensary. The 56% ($n=34$) of pharmacists supported for need of training requirements while 42% ($n=25$) believed there was need for structural changes.

In case of pharmaceutical care, prescription counselling was assessed. The 68% of pharmacists did not believe that CDAP compromised private prescription counselling. Less than 50% did not believe that more emphasis on private prescription counselling. This implies that more than half of the pharmacist population acknowledges that for whatever reason, more emphasis had to be given on private prescription counselling than that of CDAP. Hence a clear inference can be made, based on this perceptual data that there is actually a compromise in the level of pharmaceutical care being delivered to some patients (i.e., CDAP patients).

Company's perspective

Trends in CDAP dispensing

It was disclosed that there was an overall increase in CDAP prescriptions from the year 2005-2008. There were 1801 prescriptions in 2005, 2265 prescriptions in 2006, 3002 prescriptions in 2007 and 3344 prescriptions in 2008 [Figure 1].

Original brand sales

Decrease in company and retail sales of original brands was found to be decreased after launching of CDAP program as shown in Figure 2.

Retail sales: Metformin

We observed an overall decrease in sale of Glucophage® and a steady increase in sale of LAS metformin [Figure 3].

We found generics and brand sales being 60% and 40%, respectively, in North Trinidad whereas in South Trinidad both were equal i.e., 50% each. As per the recent news, there is no shortage of CDAP drugs.^[8]

DISCUSSION

Implementation of CDAP can explain the phenomenal rise in the sale of generics and the fall in the sale of brands. Because of low retail sale of brands there was decrease in company sale for the respective brand. There was different generic and brand sales observed in North and South Trinidad. Moreover a continuously increased trend in CDAP prescribing was noted which makes the medications more readily accessible and available. This in turn probably generated increased compliance and acceptance by public. There is need for such programs to be implemented in developing countries.

Our study had the following limitations:

1. Difficulty in obtaining data. Company filing and recording policies does not allow for easy access to information on sales as an individual digital request function.
2. Time constraints as well as yearly timing that study was conducted. Due to the fact that there was already

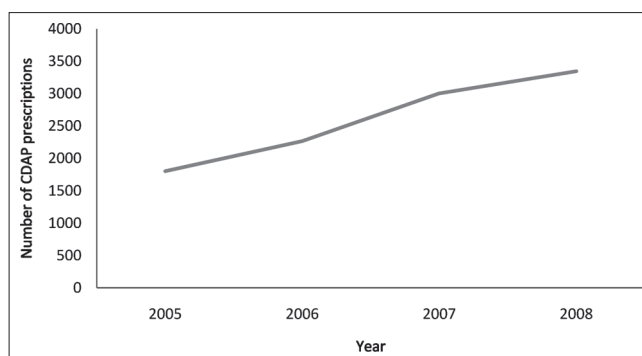


Figure 1: Trends in CDAP dispensing at a medium-scale local pharmacy

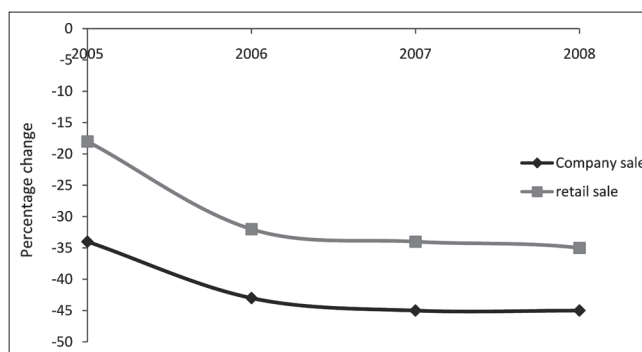


Figure 2: Decrease in both company and retail sales of original brands

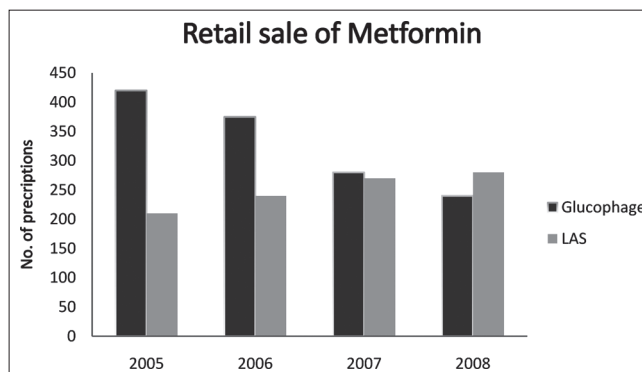


Figure 3: Sale of Glucophage® and LAS brand (metformin)

limited data, since this project was conducted before the company's yearly stock processing analyses, it was difficult to compare data for an incomplete year to previous years for the purpose of following trends.

3. Some pharmacists commenced employment post-CDAP implementation.

CONCLUSIONS

The implementation of CDAP can explain the phenomenal increase in sale of generics drugs and the decrease in the sale of brands. There is a need for such a program in the developing countries.

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APPENDIX 1

Questionnaire sheet to assess the impact of CDAP on the retail sector

The following scale applies to all questions in this questionnaire:

1. Strongly Agree
2. Agree
3. Uncertain
4. Disagree
5. Strongly Disagree

After each statement below please circle the most appropriate number based on your opinion from experience, the extent of which in correlation to the scale.

- a. The introduction of CDAP decreased the sales of original items stocked in your dispensary.
1 2 3 4 5
- b. The introduction of CDAP increased sales of generic brand items stocked in your dispensary.
1 2 3 4 5
- c. The introduction of CDAP increased staffing needs in the dispensary.
1 2 3 4 5
- d. The introduction of CDAP increased the functional delegation of staff within the dispensary.
1 2 3 4 5
- e. The introduction of CDAP increased staff training requirements in the dispensary.
1 2 3 4 5
- f. The introduction of CDAP effected structural changes within the dispensary.
1 2 3 4 5
- g. The Counselling of Regular Prescriptions was compromised

after the introduction of CDAP.

1 2 3 4 5

- h. More emphasis is placed on Counselling for Regular Prescriptions than that of CDAP
1 2 3 4 5
- i. More emphasis is placed on Regular Prescription Screening and Processing than CDAP.
1 2 3 4 5
- j. There is some compromise of the sale of Dispensary items due to CDAP.
1 2 3 4 5
- k. After the introduction of CDAP there was an increase in the number of Generic Brand orders for sale in the dispensary from wholesalers and marketers.
1 2 3 4 5

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