



Impact of Bureau of Pharma PSU's India Affordable Cost Medicine Scheme on Economic Consumers

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ABSTRACT

The purpose of the present study is aims to survey about the awareness; knowledge and perception of economic consumers and doctor's knowledge about PMBJP generic drug scheme in India. Government of India addressed the issue of high priced branded medicines, which are costlier however economic peoples were not affordable to buy the medicines. In order to take care of people government of India established Pradhan Mantri Bharatiya Janaushadhi Pariyojana (PMBJP) scheme for all the consumers in the country with the purpose of high quality medicine at affordable cost, through stores of "Pradhan Mantri Bharatiya Janaushadhi Kendra's" under the implementing agencies of Bureau of Pharma PSU's India (BPPI) in different locale of the country. The survey consists of 21 questions including about awareness, perception, their experience and willingness to buy PMBJP medicines and their reasons. The sample size for the data collection of survey study was 300 respondents for the consumer perception study and from 90 respondents for the doctor's perception study randomly selected belong to both urban and rural area in the state of TamilNadu, India. The study revealed that the economic consumers are showed positive note and happy about the scheme which will reduced their medical expenses and they are ready to buy the PMBJP generic medicines if the doctors prescribe the PMBJP generic medicine because its directly controlled by Government of India and economic consumers looking for to buy the PMBJP generic medicines as it is cheaper in price compared to branded one further, doctors also perceived that PMBJP generic medicines contain the same dose as the branded medicines.

Keywords: Generic medicine, PMBJP scheme, Affordable cost medicine, Economic

INTRODUCTION

Branded medicines are sold at altogether more major expenses. The total production and distribution cost of the medicine is very less when compared to the price paid by the consumers. In the 2019 turnover of Rs 1.4 lakh crores (US \$20.3 Billion) with profits showed by Indian pharmaceutical industry in order to earn high profits the business in pharmaceutical industry needs to remain drug costs as high. Given the broad destitution the nation over, the better quality medicines accessible in the market would be beneficial to economically weaker consumers and disadvantaged. This has been consistently a significant be troubled to Indian government. Government of India addressed the issue of high priced branded medicines, which are costlier however economic peoples were not affordable to buy the medicines. In order to take care of people letting down to poverty. In the year 2008 government of India established PMBJP generic medicine scheme for all the consumers in the country with the purpose of high

quality medicine at affordable cost, through stores of "Pradhan Mantri Bharatiya Janaushadhi Kendra's" (PMBJK) in different locale of the country [1].

According to World Health Organization (WHO) definition of generic medicines is "a pharmaceutical product, usually intended to be interchangeable with an innovator product identical to its corresponding innovator medicine in terms of safety, quality, efficacy, dosage form, strength and route of administration, and has the same that is manufactured without a license from the innovator company and marketed after the expiry date of the patent or other exclusive rights". The public generic medicine guidelines is "a commitment and direction towards an objective" by means of an encouraging sustainability and fair play in the pharmaceutical industry by the public and private companies. It ought to make sure the affordability, ease of use and convenience to superior quality, secure and efficient medicines, encourage cost effective medication to healthcare practitioners and patrons in emergent nations. The almost 30 percent of the world populations were lacking supply of necessary drugs and medication prices were the access barriers in the economically weaker countries of Asia and Africa estimated by world bank and often high priced medicines are unaffordable in the large portion of populace in low income and mid income nations, although for the high income countries population having without adequate insurance for the peoples and social protection. It is important for promoting affordable cost medicines in order to improve medication access for individuals (out of pocket) and governments. Medication expenditure for a great portion of the whole healthcare expenses range between 20 to 60 percentage in mid and low income countries, So cost effective strategy helps the governments globally having limited resources, and to control the raising healthcare expense due to increasing demand [2].

Need for PMBJP generic medicine

Almost 61 percent of the expenses on out of pocket related spending by every citizens of India. The everyday savings money of the poor is depleted by purchasing excessively expensive medicines. Extensive poverty in India, India faces poverty as probably the most serious issue; however it is among the developing economies. It had a development rate of 7.11% in 2015 and has a largest market. India's poverty rate for period 2018-2019 assumed at 6.7 percent or around 88 million population in the country; taking the amended poverty line as 1.25 USD as articulated by the international comparison program. The need to apportion generic medications gets ostensible in such a situation. Cost-effective healthcare is increasing globally. In countries like USA, UK, China and Australia prescribes over 80 per cent of them are generic medicines to the patients articulated by prescription audits report, so generic medicines providers play a key role. India is the largest exporter of generic medicines, less than 50 percent of generic medicines only prescribed and consumed [3].

The rise of pradhan mantri bhartiya janaushadhi kendra

Government of India established the Pradhan Mantri Bharatiya Janaushadhi Pariyojana Scheme (PMBJPPS) is an incredible intercession against the high prices of medicines by private pharmaceutical industry, to make the generic meds accessible at moderate costs. The department of pharmaceuticals, chemicals and fertilizers ministry has been taking a few administrative and monetary measures every once in a while towards understanding this objectives. The economically weaker population of India can't bear the cost of many branded medicines; subsequently, there is a largest requirement for making the less expensive generics medicines accessible to Indians to the greatest advantage of weaker population. At first, it was recommended that the campaign of PMBJP scheme executed during the (2008-2009) 11th five year plan. With a goal of establish at least one outlets in all the 630 districts, to be stretched out to the villages and towns as soon as possible focuses by 2012. In Amritsar, Punjab state the first "Pradhan Mantri Janaushadhi Kendra" (PMJK) was opened. It was imagined that the plan would operates in self-continuing plan of action, and not be reliant on government endowments or aided. It is works on the guidelines of "no profit, no loss" [4].

In the year 2015 the effective strategic action plan was prepare formulated to achieve the goals of PMBJP and objectives. The main important six key aspects of SAP are: Awareness, availability, acceptability, accessibility, affordability, and effective implementation and a plan to increase the outlets, generic medicines and surgical equipment numbers. The number of stores stands at 5222 in all the thirty-five states and union territories covers across the nation as of now. There are about more than 954 products includes (800) medicines and (154) clinical equipments accessible in PMBJP scheme with the eminence assured from National Accreditation Board for Testing and Calibration Laboratories (NABTCL), WHO-GMP qualified organizations and CPSUs. Bureau of pharma PSU's in India has established the modern technologies central warehouses in order to maintain the reliability of quality and

proficient ICT software's for automated dispatches to janaushadhi kendra's point in time. The modern warehouses are located in Gurugram, Bangalore, Guwahati and Chennai for storage space and delivery of medicines to all stores across India from these four depots [5].

The main objective of PMBJP is production of superior quality medicines accessible at moderate costs for all, especially poor people and impeded, through selected outlets "pradhan mantri bhartiya janaushadhi kendra's", in order to reduce cash based overheads in healthcare. Vision of PMBJP is "to cut down the healthcare spending plan of each resident of India through giving high quality general drugs at affordable prices". Mission is to make awareness among people regarding that high priced medicines need not be equivalent to high quality generic medicines through education. Generate the consumers for PMBP medicines through doctors and practioners and accessible to cover all the therapeutic medicines groups under the PMBJP scheme commonly used and to supply all the associated generic medicine items [6].

MATERIALS AND METHODS

Objectives of the study

The objective of the present study is aims to assessment of PMBJP scheme and its impact on economic consumers and the survey conducted about the awareness, knowledge and perception of economic consumers and doctors towards PMBJP generic medicine and their willingness to consume the products and the reasons behind their choice of purchasing the generic medicines [7].

Survey design

The nature of the study is empirical, the primary data was collected through survey consist of awareness and perception questionnaire on consumers and doctors. The secondary data was collected in available source published in the PMBJP website and the ministry of pharmaceuticals and also annual reports. The survey consists of 21 questions including about awareness, perception, their experience and willingness to buy PMBJP community medicines and their reasons. The sample size for the data collection of survey study was 300 respondents for the consumer perception study and from 90 respondents for the doctor's knowledge and the study randomly selected respondents belong to both urban and rural area in the state of TamilNadu, India. The structured questionnaires was formulated and circulated to consumers and doctors separately. The individual respondents were request to give the points of their awareness, perceptions and experience about the janaushadhi generic medicines, and marking points on from strongly agree to strongly disagree continuous five-point Liker scale used to get the data. The reliability test was performed to check the accuracy or free of errors with cronbach's alpha coefficient of all the constructs in the survey questionnaire. The descriptive statistics methods performed in the study to analyze the simple average and percentage analysis with the use of SPSS statistical software (Tables 1-3) [8].

RESULTS

Descriptive analysis of responses

Table 1 Demographic characteristic of consumers

Gender	Age (years)		Educational level		Monthly income (INR)						
	n	%	n	%	n	%					
Male	165	55	18-38	70	23	23	Below 10000	142	47		
Female	135	45	38-58	130	43	Literate	90	30	20000-30000	118	39

-	-	-	Above 58	100	33	Graduate	110	37	30000-40000	31	10
-	-	-	-	-	-	Post graduate	30	10	Above 50000	9	3
Total	300	100	-	300	100	-	300	100	-	300	100

Note: (n=300)

Table 2 Demographic characteristic of doctors

Profession	n	%	Experience (years)	n	%	Gender	n	%	Prescription pattern	n	%	Aware of PMBJP Kendra	n	%
General physician	38	42	Less 5	24	27	Male	63	70	Branded medicine	62	69	Aware	61	68
Cardiologist	28	31	45204	26	29	Female	27	30	Generic medicine	28	31	Unaware	29	32
Pediatrician	10	11	42278	30	33									
Others	14	16	Above 15	10	11									
Total	90	100		90	100		90	100		90	100		90	##

Table 3 Consumer's profile of PMBJP

Aware of PMBJP scheme	n	%	Consumers history of records	n	%	Period of use	n	%	How do you come to know?	n	%
Aware/ unaware	230	76	Blood pressure	126	42	1-3 months			TV and news paper ads	60	20
	70	24	Diabetics	108	30	3-6 months	60	20	Pamphlet		
-	-	-	Cardiac	36	12	6-9 months			Doctors suggestions	30	10
-	-	-	General/ others	30	10	Above 9 months	99	33	Local bill boards and banner ads		
-	-	-	-	-	-	-	-	-	Recommended by relatives/ friends	15	5

-	-	-	-	-	-	-	78	26	-	-	-
-	-	-	-	-	-	-	-	-	-	120	40
-	-	-	-	-	-	-	21	21	-	-	-
-	-	-	-	-	-	-	-	-	-	75	25
Total	300	100	-	300	100	-	300	100	-	300	100

Note: n=300

In total, 300 consumers were surveyed in the Janaushadhi stores in TamilNadu. Most of consumers 230 (76%) aware of the PMBJP scheme, knowledge of Janaushadhi stores seem to be percolating steadily. word of mouth communication is significant influence on consumers towards PMBJP generic medicines. Largest part of consumers (43%) in the age range between of 38-58 years, followed by the age of above 58 years. Majority of the consumers who are having the history of record with blood pressure (42%) and diabetics (30%) and among the 99 (33%) consumers were purchased the products and switched buying for about 3 to 6 months. Almost 40 percentage of the consumer came to know by local bill boards and banner ads [9].

The average scores of consumers' awareness, perceptions and experience on PMBJP generic medicine

Consumer's awareness and perception towards PMBJP generic medicine: The respondents percentage of strongly agree and agree, mean scores and standard deviation values of the consumer's awareness and perception towards PMBJP generic medicine. Shows that consumers are ready to buy the PMBJP generic medicines because it's directly controlled by government of India (mean 4.46) peoples are strongly trust on government aided products and most of the consumers will buy the products if its prescribe the medicine by doctors (mean 4.35) (Table 4).

Table 4 Descriptive analysis consumers

Questions	Respondents % of strongly agree and agree	Mean	SD
Awareness towards PMBJP generic medicine			
Q1. Aware that there are PMBJP generic medicines are available	76	4.2	1.12
Q2. Well know that difference between a branded medicines and PMBJP generic medicines	80	4.12	1.03
Q3. Think that the PMBJP generic medicines is as same quality and effectively curable as the branded medicine without disruption	70	3.98	1.05
Q4. Think that the PMBJP generic medicines is as safe and trust same as the branded medicine	69	3.82	1.01
Q5. Know that the PMBJP generic medicines has passed the government norms and international standards (WHO recognized) equivalent to branded medicine	50	3.25	1.06
Perception towards PMBJP generic medicines			
Q6. Comfortable in purchasing and consuming PMBJP generic medicines	78	4.12	1.16

Q7. Agreeable to buy the PMBJP generic medicines as it is cheaper in price compared to branded one	81	4.15	1.13
Q8. Ready to buy the PMBJP generic medicines because its directly controlled by Government of India	96	4.46	0.78
Q9. Ready to buy the PMBJP generic medicines if the doctors prescribe the medicine	92	4.35	0.92
Experience on PMBJP generic medicines store			
Q10. I had purchased before and it cured well	70	4.09	0.97
Q11. Sufficient availability of PMBJP generic medicines maintained in the PMBJP stores	62	3.76	1.18
Q12. I would like to share my experience and to recommend others	88	4.27	0.99
Q13. My level of satisfaction with PMBJP generic medicines	82	4.18	1.01
Q14. Because of Pradhan Mantra Bhartiya Janaushadhi Kendra (PNBJK) is located near to my home	40	2.27	1.21

The greater part (76 percent) of the respondents were aware that there are PMBJP generic medicines are available in their location and 24 percent of them were new arrives and optional. About 80 percent of the consumers well know about that difference between a branded medicines and PMBJP generic medicines. More over 70 percent of the consumers think that the PMBJP generic medicines is as same quality and effectively curable as the branded medicine without disruption and 69 percent of the consumers think that the PMBJP generic medicines are as safe and trust same as the branded medicine and only 50 percent of the consumers knew that the PMBJP generic medicines has passed the government norms and international standards (WHO recognized) equivalent to branded medicine. Among the consumers, the majority (78 percent) were comfortable in purchasing and consuming PMBJP generic medicines and 81 percent were strongly agreed to buy the PMBJP generic medicines as it is cheaper in price compared to branded one and about 96 percent of the consumers were ready to buy the PMBJP generic medicines because its directly controlled by government of India and almost 92 percent of them ready to buy the PMBJP generic medicines if the doctors prescribe the medicine. Among the respondents were 70 percent of them shared their past experience of purchased before and it cured well and more than half of the consumers (62 percent) were satisfied with sufficient availability of PMBJP generic medicines maintained in the PMBJP stores. The majority of the consumers (88 percent) would like to share their experience and to recommend others and 40 percent of the consumers were purchased the medicine because of stores located near to their vicinity and most of the respondents (82 percent) were satisfied with PMBJP generic medicines (Table 5) [10].

The average scores of doctor's perception towards PMBJP generic drugs generic medicine

Table 5 Descriptive analysis doctors

Question	Respondents % of strongly agree and agree	Mean	SD
Doctor's perception towards PMBJP generic drugs			

Q1. Aware of the fact that PMBJP generic medicines equivalent to branded one (bioequivalence)	68	3.29	1.52
Q2. PMBJP generic medicines contain the same dose as the branded medicines	79	4.08	1.19
Q3. PMBJP generic medicines are of superior quality when compared to branded medicines	50	3.16	1.15
Q4. PMBJP generic medicines are less effective than branded medicines	36	2.98	1.02
Q5. PMBJP generic medicines are less expensive than branded medicines	80	4.17	1.26
Q6. Branded medicines are easier to recall and available in most of the store	76	3.99	1.14
Q7. PMBJP generic medicines will have side effects than brand medicines	19	1.96	1.22

Doctor's perception towards PMBJP generic drugs

Half of the doctors (68 percent) were aware of the fact that PMBJP generic medicines equivalent to branded one (knowledge of bioequivalence) and 32 percent of the respondents required adequate information about the drugs of its testing methods and some of them disagreed with bioequivalent of PMBJP medicines compared to branded drugs. (79 percent) believed that PMBJP generic medicines contain the same dose as the branded medicines for the better treatments. About half of them (50 percent) agreed that PMBJP generic medicines are of superior quality when compared to branded medicines and half of them disagreed. One third of the respondents (36 percent) disagreed with that PMBJP generic medicines are less effective than branded medicines and 64 percent of them agreed with safety and effectiveness of medicines and produced with standard procedures. Majority of the respondents (80 percent) experienced that PMBJP generic medicines are less expensive than branded medicines and 76 percent of the doctors thought that branded medicines are easier to recall and available in most of the store and very lesser (19 percent) agreed that PMBJP generic medicines will have side effects than brand medicines [11].

DISCUSSION

Typical problems faced by the consumers

The consumers showed a positive reaction to the PMBJP scheme but there are some aspects which they need to improve. 24 percent of the consumers were not able to find the same combinations of drugs available in the stores prescribed by the physicians. Some of them faced difficulties, for some of the combinations of drugs are not available in the single form, certain cases available in separate drug. It leads to the consumers have to take two drugs instead of one. Availability of stocks for the regular consumers, sometimes medicines were not available in the stores because of lack in supply of combinations of drugs that should be maintained. Some of them faced an issue with hand writing of the doctor's prescription not easily to read, lengthy of drugs name and its expiry dates of medicine [12].

Annual growth of janaushadi products and store**Table 6 Annual growths of janaushadi products and stores (2015-2020)**

Year	No. of Stores	Growth	No. of products	Growth	Turnover (Cr)	Growth	Cheaper by	No. of products
2015-16	269	-	300	-	12	-	-	-
2016-17	1080	4.01	488	1.63	33	2.75	80-90%	371
2017-18	3322	3.08	600	1.23	141	4.27	70-80%	141
2018-19	5140	1.55	700	1.17	315	2.23	60-70%	94
2019-20	5928	1.15	900	1.29	303	0.96	0.5	295

From Table 6, presented the annual turnover of janaushadhi kendra is high in the financial year (2019-2020) of rupees 303 crores and (96%) high in terms of growth, this shows that the janaushadhi kendra witness higher potential for selling janaushadhi generic medicines and number of janaushadhi kendra was increased year by year more than 5900 functionally presented in all over India and aims to achieve the target to cover all 725 districts. Product basket of Janaushadhi includes of more than 800 medicines and 154 surgical equipments. Thus, standard efforts are made for augmenting the product coverage of PMBJP so that important generic drugs are readily accessible. The prices of the PMBJP generic medicines are cheaper by maximum of 80%-90% of the average price of well-known branded drugs. Therefore, the cost of PMBJP medicines is cheaper at least by 50 percent and in some cases, by 60 to 70 percent of the price of branded drugs. This has led to savings of around 1800 crores rupees of the economic consumers of the country [13].

Social implication of the study

This study brings out potential information of positive and drawbacks of the scheme which was introduced by department of pharmaceutical, ministry of chemical and fertilizer, government of India. The scheme of supply of quality medicines for economically weaker population at affordable cost, it will reduce their medication expenditures. The government and aided hospital should open up the stores nearby and doctors also prescribe the medicines [14]. Individuals/NGO/charitable institutions/ unemployed pharmacist/entrepreneurs can open up the stores which will leads to generate of employment and consumers beneficial too. In recent years, many governments in the world concern on poor populace and their medical expenses, the best solution is to procure and distribute the generic medicines. Try to create an awareness of generic medicines also equivalent to the branded medicines. Finally this low cost generic drug medicines distribution scheme should followed by all the countries and private companies can contribute their corporate social responsibility spending to this scheme [15].

CONCLUSION

The study revealed that the economic consumers are showed positive note and happy about the scheme. In fact drug cost is an important aspect influencing the consumers' attitude about PMBJP generic medicine which will reduce their medical expenses and they are ready to buy the PMBJP generic medicines if the doctors prescribe the PMBJP generic medicine because it's directly controlled by government of India. Economic consumers looking for to buy the PMBJP generic medicines as it is cheaper in price compared to brand one. Further, doctors also perceived that PMBJP generic medicines contain the same dose as the branded medicines. There is a huge potential consumer for the PMBJP generic medicine scheme especially economic background population, So that the number of the stores can be increase in the upcoming years and try to create more awareness. Ensure that internationally acclaimed quality drugs supplied by the government and do not compromise with quality. Awareness program of the PMBP generic medicine scheme is satisfactory and try to educate and informing about the products to the doctors. The most important is availability of stocks in the stores so that inventory management should be well established based on pattern of consumptions. Finally the economic consumers buying capacity has a significant influence on consumption of PMBJP generic medicine and doctors can prescribe the PMBJP generic medicine based on consumer's capacity. The low cost generic drugs are favorable and economically viable to the populace in TamilNadu.

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