



The effect of Medicine subsidy targeting on Changing behavioral patterns of patients in Mazandaran province

¹Qahraman Mahmoudi, ²Fatemeh Alipour Nakhi*, ²Abbas Alipour Nakhi

Faculty Member of Medical Department, Islamic Azad University, Sari branch, Iran

Medical Department, Islamic Azad University, Sari branch, Iran

Department of Economic, Social and Extension, Mazandaran Agricultural and Natural Resources Research and Education Center, Sari, Iran

*Corresponding Author : Daryanaz139372@gmail.com

ABSTRACT

Since Iran is one of the most used world countries in medicine consumption, and the medicine as one of the most used items plays a strong role in the consumption baskets of the households of the country; therefore, performing the targeting policy as a revolution in the economic system of the country, particularly in the section of medicine subsidy omission (deletion), can have deep effects on different economic sectors such as therapeutic sector of the country. This research with general goal of recognizing the effects of medicine subsidy targeting (increasing the medicine price and payment of patients, portion by the government through the insurance companies) on changing behavioral patterns and its consumption method among the patients of Mazandaran province was performed by descriptive and analytical methods. Statistical population of the research includes all the patients who referred to doctor offices and therapeutic centers (health care) and the hospital of Qaemshahr, Sari and Behshahr for their therapy (treatment). Among them, 300 samples were selected using Morgan table and were directly questioned by simple randomized method using the questionnaire tool (instrument). The collected data was analyzed within the framework of SPSS software package and one-sample T test statistical test. Research hypotheses were tested. The results obtained from this research showed that performing medicine (drug) subsidy targeting policy on changing behavioral patterns of patients was meaningful (significant) at error level 0.01 . But mean answer of statistical population was not very far from the expected mean of the researcher. It was just slightly more than it.

Key words: subsidy, medicine, targeting, behavioral patterns, patients, Mazandaran.

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Introduction:

The welfare of society particularly low-income class of people is always considered by the governments. For this purpose, subsidy payment, especially for fundamental (essential) items, is performed with the aim to decrease the prices and to increase the shopping power. But due to not being targeted of these payments, a great part of subsidy goes to the rich classes and high-income decimials. Therefore, targeting of subsidy, i.e., transferring the payable subsidy from the involved items used by most high-income decimials to non-involved items used by most low-income decimials seems an undeniable necessity [1]. The studies show that first supportive orientations by the government in order to fulfill (meet) this necessity was performed in 1932. But the history of subsidy payment with its current concept dates back to 40s [2]. From the beginning up to now, the subsidy was paid in different forms. Among them, some cases such as direct cash subsidy (cash subsidy in the form of cash money for the poor and risky people), indirect cash subsidy (cash payment in the form of paying money to the poor for a specific goal and purpose), direct value subsidy (including awarding coupon with a specific value for the consumed items and foods to the target households). Public/ general indirect subsidy (A subsidy which is determined and exerted as recognition of the price of items and services at lower than its real price and it is used by the general public) can be indicated [3]. Regarding subsidy payment as (targeting) in the medicine area is essential because it is a strategic item and of fundamental needs of general public [4]; therefore, an appropriate policy-making should be performed in relation to the medicine and a precise economic planning should be performed to design and organize it [5]. The present paper expresses an attempt within the framework of a collegiate (University) research with general goal to recognize the effects of medicine

subsidy targeting (increasing the medicine price and the insurance companies) on changing behavioral patterns and its consumption method among the patients in Mazandaran province in order to help the decision – makers in health area of the country and the province for wisely facing with the biggest governmental decision of the country during three recent decades. In this research, it will be attempted to answer the following questions:

- To what extent, medicine subsidy targeting (payment of medicine cost by the government through the insurance companies) had been effective on its consumption method and its value among the patients in Mazandaran province?

- To what extent, targeting (payment of medicine cost by the government through the insurance companies) was able to be effective on changing behavioral patterns of patients to supply their medicinal needs?

RESEARCH METHODOLOGY

The present research is of descriptive- analytical type (kind). According to the nature, the topic (subject) and goals which are defined for it, show that it is an applied (a functional) research. Since in this research, the questionnaire tool was used for the required data collection, this research can be regarded a survey research. The statistical population of the research includes all patients who referred to the physicians' (doctors') offices and therapeutic centers and hospitals of Qaemshahr, Sari and Behshahr for their treatment (therapy). Among them, 300 samples were selected using Morgan's chart (table) and were directly questioned by simple randomized method using the questionnaire tool (instrument). The collected data was analyzed within the framework of SPSS software package and one- sample T-test statistical test. The research hypotheses were tested. The research variables regarded the effect of targeting on some cases such as inclination in physicians for the medicine supply through the prescription, inclination in complementary insurances in order to meet the medicinal costs (expenses), inclination in family physician plan to exploit free medical services and discount in payment of medicinal costs, inclination in using domestic medicines (drugs produced inside the country), decreasing medicinal items of prescriptions by the physicians, patients' paying more attention to treatment (therapy) of chronic and long- lasting diseases.

RESULTS AND DISCUSSION

1- In this research, the greatest frequency was constituted by women and men as 52 percent and 48 percent, respectively. The research results in respect of the age of respondents represent that more than 53 percent of respondents were between the ages 20-40 years old.

2- The study of research results showed that slightly more than one- third of the respondents (34.4%) had higher education and complementary education (B.A. and M.A.), 53.4% of them were illiterate and / or enjoyed diploma and under- diploma education. This is while just 12.3 percent had associate diploma degree.

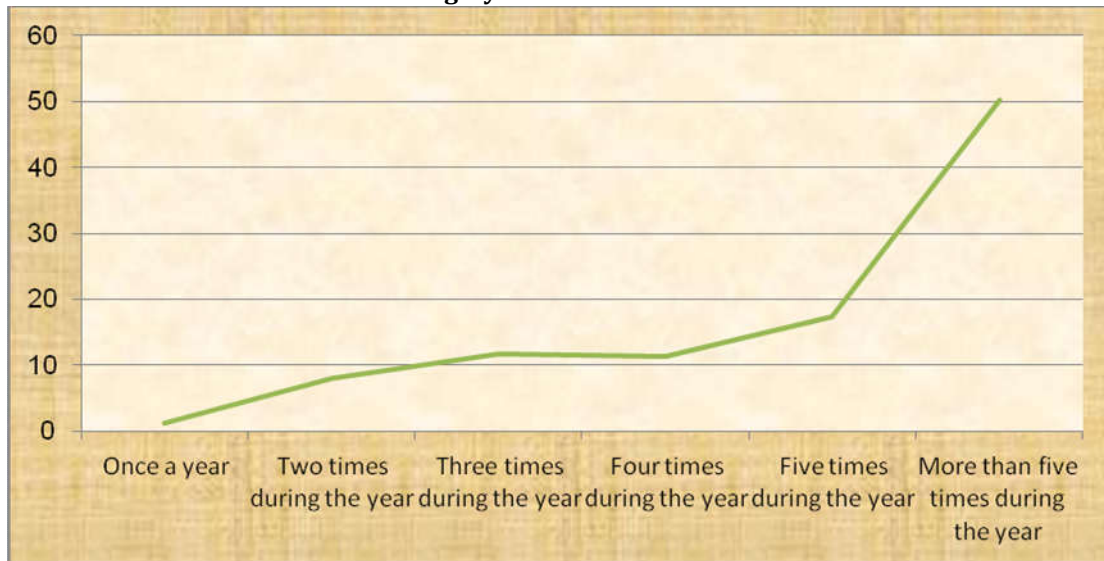
3- Regarding the research findings, it was determined that most respondents had free jobs (27.7 percent). After in, the greatest individuals were the officials with 25.3 percent, 21 percent of them were householders, 11.7 percents were students and university students, 5.7 percent of them were workers, 3 percent were unemployed, 0.7 percent were farmers and herdsmen, and 5 percent had the other jobs.

4- The answers of 50.3 percent of participants in this research showed that they suffered from a special disease and referred to the hospitals and therapeutic centers (health care) for their treatment.

5- The results showed that 26.3 percent of respondents were single persons. 73.7 percent were married ones. Also, among 300 persons of respondents, 9.3 percent had a 2- person family, 18.7 percent had a 3- person family, 35 percent had a 4- person family, 20.7 percent had a 5- person family, and 13.3 percent had a more than 5- person family.

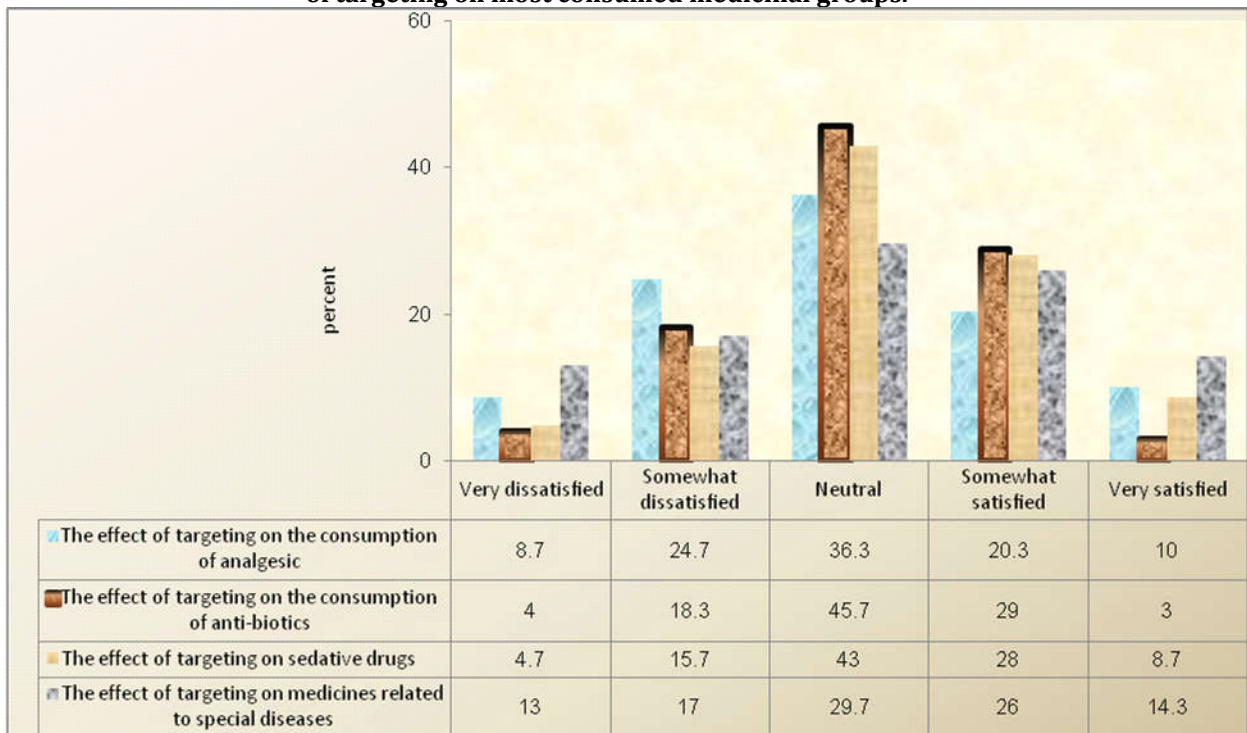
6- More than half of the patients participated in this research (50.3 percent) referred to the physicians and therapeutic centers (health care) more than five times a year for treatment of their diseases. 49.7 percent referred from one up to five times a year.

Diagram 1- Distribution of frequency percentage for the participants’ referring to the physician during a year in this research.



7- According to the data obtained (extracted) from the questionnaire which its results are observed in diagram 2, medicine targeting (payment of medicine cost by the government through the insurance companies) had not meaningful (significant) effects on kinds of most consumed (used) medicinal groups such that in all four groups of most consumed medicines (drugs), more than 50 percent of patients believed that its effect was very low up to middle.

Diagram 2- Distribution of answer (reply) percentage by research samples in respect of the effect of targeting on most consumed medicinal groups.



Testing the hypotheses and analysis of research findings:

Main (primary) hypothesis of research:

It seems that medicine subsidy targeting (increasing the medicine price and payment of patients’ portion by the government through the insurance companies) was effective on the value and method of its consumption by the patients. H_1

It seems that the medicine subsidy targeting increasing the medicine price and payment of patients' portion by the government through the insurance companies was not effective on the value and method of its consumption by the patients. H_0

According to the primary pre-assumption of the research including the medicine subsidy targeting (increasing the medicine price and payment of patients' portion by the government through insurance companies) was regarded as effective on its consumption value by the patients, the results showed that making this policy had not significant effects on the method and value of medicine (drug) consumption by the patients such that the calculation (computational) mean (the responses received by the patients) in this research through one- sample T- test was just slightly more than the average value expected by the researcher (Tables 2 and 3).

Tables 2 and 3: Analysis of evaluation variance of the effects of medicine subsidy targeting on its consumption value by the patients

One -sample statistics

	N	Mean	Std. Deviation	Std. Error Mean
The effect of medicine subsidy targeting on its consumption value (level) by the patients	300	3.2000	.90705	.05237

One -sample test

The effect of medicine targeting on its consumption value (level) by the patients	Test Value=3					
	t	df	Sig. (2-tailed)	Mean Difference	95% confidence interval of the difference	
					Lower	Upper
	3.819	299	.000	.20000	.0969.	.3031

Also; in this research, the statistical population was asked in respect of the effects of medicine subsidy targeting on changing behavioral patterns of patients in facing with increasing its price and serious interference of government to pay its difference through the insurance companies. Part-to- part study of the question showed that performing this policy had significant (meaningful) but weak effects on some cases such as patients' paying more attention to treatment (therapy) of their chronic and long- lasting diseases, decreasing medicinal items of prescriptions by the physicians, inclination in complementary (supplementary) insurances in order to meet (provide) medicinal costs And inclination in Family physician plan such that the computational mean of the responses (answers) by statistical population to the effect of exercising this policy on behavioral patterns of patients was less and /or slightly more than expected mean in all cases (Table8). Consequently, the primary hypothesis of research in respect of the effect of performing the medicine subsidy targeting policy on changing behavioral patterns of patients is verified at the level of 0.01 error at H_1 domain and its opposite hypothesis, i.e., H_0 is rejected. (Tables 4,5,6 and 7).

Tables 4 and 5- Evaluation variance analysis of the effects of medicine subsidy targeting on behavioral patterns of patients

Table 4-one-sample statistics

	N	Mean	Std. Deviation	Std. Error Mean
The effect of medicine targeting on behavioral patients of patients	300	21.8200	4.19200	.24203

Table5- one -sample Test

The effect of medicine subsidy targeting on behavioral patients of patients	Test Value=3					
	t	df	Sig. (2-tailed)	Mean Difference	95% confidence interval of the difference	
					Lower	Upper
	3.388	299	.001	.82000	.3437	1.2963

Tables 6 and 7- Evaluation variance analysis of the effects of medicine subsidy targeting on behavioral patterns of patients

Table 6-one-sample statistics

	N	Mean	Std. Deviation	Std. Error Mean
Inclination in physicians to supply the medicines through the prescription	300	2.9033	1.13060	.06528
Inclination in complementary (supplementary) insurances to meet medicinal costs	300	3.1433	1.09855	.06342
Inclination in Family physician plan to exploit the discount to pay the medicinal costs	300	3.0767	1.01697	.05872
Inclination in suing domestic medicines (drugs produced inside the country)	300	2.9867	1.06697	.06156
Decreasing medicinal items of prescriptions by the physicians	300	3.1167	1.12276	.06482
patients' paying more attention to treatment (therapy) of their chronic and long- lasting diseases	300	3.3933	1.25321	.07235

Table 7- one -sample Test

	Test Value=3					
	t	df	Sig. (2-tailed)	Mean Difference	95% confidence interval of the difference	
					Lower	Upper
Inclination in physicians to supply the medicines through the prescription	-1.481	299	.140	-.09667	-.2251	.0318
Inclination in complementary (supplementary) insurances to meet medicinal costs	2.260	299	.025	.14333	.0185	.2681
Inclination in Family physician plan to exploit the discount to pay the medicinal costs	1.306	299	.193	.07667	-.0389	.1922
Inclination in suing domestic medicines (drugs produced inside the country)	-.217	299	.829	-.01333	-.1345	.1078
Decreasing medicinal items of prescriptions by the physicians	1.800	299	.073	.11667	-.0109	.2442
patients' paying more attention to treatment (therapy) of their chronic and long- lasting diseases	5.436	299	.000	.39333	.2509	.5357

DISCUSSION AND INTERPRETATION

Regarding extensive studies performed in scientific texts and resources in respect of this article's topic (paper's subject); unfortunately, some similar research was not found in this respect. Therefore; in ultimate (final) summation and conclusion, it was tried to address the results of general researches (investigations) along with the findings obtained in this research.

Fundamentally, one of the important goals for targeting the medicine subsidy payment (increasing the price and payment of patients' portion by the government through the insurance companies) was to create a change in incorrect behavioral patterns of people during payment of subsidy to productive (manufacturing) and service-based companies importing the medicines (drugs) to the country; something which caused a high volume of payable subsidy shall be transferred to outside of the health system of the country through illegal networks (channels) and shall be available for the patients in need as smuggled with very unconventional prices. This caused people don't pay attention to national considerations significantly in consumption and supply of their medicinal needs. In many cases, because of cheap price of medicinal items which sometimes were available for people as ten times less than their real (true) prices with a very slight price in the network of the country's drugstores (pharmacies), without passing the therapy period and by frequent reference to physicians, they (the patients) kept a store of medicines (drugs) at their homes.

Most times, the medicines would be discarded because their consumption date was expired and as a result, these national properties (wealth's) were wasted in a perfectly incorrect form. For this reason; by exercising the targeting law, direct subsidy payment to the productive (manufacturing) and service-based companies importing the medicines (drugs) was omitted in tenth government and at once, the prices of different medicinal items, particularly the medicines related to specific diseases were significantly increased and people were shocked unexpectedly. Many of experts in exercising this plan believed that suddenly omission (deletion) of subsidies, particularly in relation to mist consumed (used) items such as the medicine, will make people to change their consumption patterns and will increase

(enhance) the effectiveness of the plan. But some other authorities believed in the opposite of this idea. From the view of this group of experts, the solution to reform the consumption pattern of people is not suddenly omission of subsidies, but the solution is the targeting of its payment such that higher (more) portion of subsidy payment was allocated to low- income decimials who are vulnerable classes (people) of the society. For this reason; emerging the eleventh government, the subsidy payment is allocated to the insurance organizations (companies) as insurance cover authorities and the foci where have the most reference of vulnerable classes (groups) of the society to the centers and hospitals covered by these organizations instead of medicine (drug) importing and manufacturing companies. This change in the approach was performed with the goal (purpose) to change the behavioral patterns of patients in order to control the value (level) of medicine (drug) consumption and to reform the method of medicine (drug) consumption. The results of findings of this research showed that performing the targeting plan in this area like energy, bread and etc. areas, had not perfectly significant (meaningful) effect on changing behavioral patterns of people. This finding was also reported by other researchers in their researches, including Ebadi and Qavam [7] in a research titled as “The medicine subsidy targeting in view of justice and efficiency”. They discovered this important matter that despite increasing the efficiency in medicinal industry of the country during the above- mentioned years which was manifested as more competitive being of medicinal market of the country and increasing the medicine (drug) production, but there was no significant difference in the situation (state) of distributive justice in the health and therapy sector in terms of the ability of all classes (groups) of the society for access to their needed medicines (drugs). Also, Kanloo [6] in her research titled as “subsidy targeting, the pre-requisite for reforming the consumption pattern”, reported that targeting of subsidy distribution doesn’t mean the omission of subsidies, but it means to change the structure and approach to pay the subsidies. If it passes successfully through the stage of identification of in-need classes (groups) and target groups of the society, it will be available for the society by appropriate methods.

In terms of payment, it will move towards the production instead of the consumed items. Many analysts of economic problems regard using social policy systems as the most appropriate substitution methods. Some of the significant advantages of this research include: increasing shopping power of the covered individuals, gradual decrease in class intervals, improvement of enterprise space and gradual exiting of the covered individuals from the created supportive umbrella. In their research, Andaysh *et.al.* [5] emphasized on this important matter that the omission of the medicine (drug) sector subsidy increases the price index of all sectors as well as living cost index of all groups of households. The best strategy to fight against these negative effects is the preventive practices through gradual decrease in the medicine subsidy and moving towards the subsidy targeting in the health sector, especially in the medicine area. Mazid Abadi Farahani [3] indicated to very important role of the medicine subsidy targeting in terms of justice establishment in the health system of the country. In his research, he indicated that the importance of medicine provision on one hand, in terms of its sensitive role in the health of people and on the other hand, because of its price, was the reason for why at present, it has allocated over 20 percent of the health and therapy costs (expenses) to itself. One of the goals of government in respect of medicine (drug) is to provide the possibilities for all people’s access to medicinal services. Therefore; at present, the subsidy allocation to the medicine (drug) is regarded as one of the necessary cases for targeted allocation of subsidies. Regarding the findings obtained from this research, some recommendations are presented as follows:

1) 61.4 percent of participants in this research believe that exercising the medicine (drug) targeting policy had middle to very low effect on decreasing its consumption by themselves. This confirms this essential point that despite people observe that the prices increased, they didn’t observe its effect on decreasing unnecessary items of some medicines (drugs) in the prescriptions of physicians. It is worthy ministry of health and therapy, especially Food and drug organization. Perform serious practices to hold training periods (sessions) for the physicians in order to justify them through transferring (conveying) the world experiences in this respect.

2) since reforming the consumption pattern is s cultural and social job; therefore, besides the continuous performance of targeting plan (design), mental maps (plans) and approaches of people, especially during the basic and adolescence ages should be changed. Parallel to this, it is suggested Ministry of health, therapy and medical training of the country, concluding some agreements with Ministry of Education. Science, Research (Investigation) and Technology, should perform effective practices in this respect by including (involving) some headlines (syllabus) in curricula related to this subject for making the culture and development (expansion) of awareness of future generations.

3) It seems that under current conditions, changing the educational approach to train the medical students who are studying, at the level of institutions and universities of medical sciences of the country, from drug- (medicine-) based therapies to non-medicinal methods to treat (cure) many diseases is an

undeniable necessity. It is suggested (recommended) that by formation of a headquarter and a specific working group, Ministry of health, therapy and medical training (education) shall perform an effective and rational practice to exercise it regarding the available capacities.

REFERENCES

1. Pirayee, Khosrow & Seyf, Seyyed Behrooz, (2010). The effect of subsidy targeting on social welfare in Iran, Tax research letter, New age, Ninth Number, serial No. 57, Page 61, pp. 61-82.
2. Khanloo, Mozghan (2009). Subsidy targeting, the pre-requisite for reforming the consumption pattern, plan weekly letter, seventh year, No 319. Page 17, pp. 17-21.
3. Mazid Abadi Farahhani, Majid, (2008), the medicine (drug) subsidy targeting, an approach to establish the justice in health system, journal of plan (program), No. 278, page 14, pp.13-18.
4. Amani, Firouz, Shaker, Afshin, Soltan Mohammadzaden, Mohammed Sadeq, Allaf Akbari, Neger, Sarraf Esmaeeli, Shohreh, (2011), the medicine (drug) consumption pattern among the civil (urban) households of Ardebil province, Journal of paramedical department, medical science university of Tehran (health outcome), period 5, No. 5, page 33, pp.33-41.
5. Andaysh, Ya'ghoub, Keshavard, Khosrow, Zoheiri, Mansour, Mirian, Iman, Beheshti, Ali, Imani, Ali, Najafi, Bhzed, Aghayee, Bahram, (2010). The effects of the medicine (drug) subsidy omission on the price index of different sectors and living costs (expenditures) of households with the approach of the analysis of structural direction, Health management, period 13, No. 42, page 45, pp. 45-56.
6. Mahboubi, Mohammed, Ehsani Chimeh, Elham, Qiyasi, Mohammed, Afkar, AbolHassan, (2009), studying the process of drug (medicine) consumption in chemically- damaged soldiers (persons) and presenting a pattern for the consumption reform, scientific research journal of chemically- disabled person's medicine, second period, No.6, page 32, pp. 32-38.
7. Ebadi, Ja'far, Qavam, Mohammad Hossein, (2009), the medicine (drug) subsidy targeting in two points of view including the justice and efficiency, Journal of economic researches, No. 86, page 131, pp. 131-162.

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