A SURVEY ON CLIENTS' OPINIONS IN ISFAHAN'S PUBLIC HOSPITALS ABOUT EFFECTIVE FACTORS IN THE FULFILLMENT OF REFERRAL SYSTEM

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ABSTRACT

Introduction: Cutting back on the staff and equipment and also reduction of costs and devices, balanced distribution of resources for optimal use and prevention of unreasonable costs for patients are some advantages of the fulfillment of referral system process. Accordingly the purpose of the present study is to determine factors affecting the fulfillment of referral system process from the viewpoints of clients of Isfahan's public hospitals so that health system could benefit its advantages.

Methodology: The research is a descriptive-

analytic survey and the population consisted of clients referring to public hospitals of Isfahan Province. Hospitals conforming to health network in cities of Falavarjan, ShahinShahr, Shahreza, Naein and some public hospitals of Isfahan city were selected for study. Cluster sampling was applied and at the end 400 subjects were selected by simple random sampling. **Findings:** Results showed that awareness and satisfaction in urban communities and motivation in rural are of higher levels. Regarding insurance status, those covered by Social Security have the most referrals to all levels and those covered by Health Service

Insurance have more referral to the first level. The mean score of awareness of clients about referral system among the hospitals investigated shows a significant difference ($p\text{-value} \leq 0.05$). **Conclusion:** Results indicate that from the viewpoints of urban clients, the rate of the awareness of and satisfaction with the way of offering health services at primary levels and from that of rural clients motivation affect the fulfillment of referral system process. Therefore improvement of these factors could make the system more efficient.

Keywords: referral system, awareness, motivation, satisfaction, teaching hospital.

1. INTRODUCTION

Healthiness is the most valued endowment for every creature (1-5). While ageing, its value and dependency on the youth time become more vivid than any other time. Being young, few people would appreciate health. Together with being energetic and efficient both individually and socially, the old age could be secured with proper precaution in early periods of life. Primary levels of health services have been created for security, preservation and promotion of health among young healthy people and higher levels for screening and recovering the elderly and patients (6-10). Unfortunately with the wrong culture of some providers and receivers of the services and under utilization of primary levels, the burden has been born more by higher levels including hospitals and individual and national

expenditures are rising continually and real health is deviating toward injustice namely affordable only for rich class of society. Real health is possible with referral system and in its actual and practical form only (1).

According to Brown and McCool's studies, the relative detachment of hospitals from extensive health problems of the society happens when facing with the correct implementation of referral system (2). As mentioned by WHO studies public hospitals cannot act on their own and should operate as parts of health services providing comprehensive health care for the society. The present study focuses on referral too, because the hospital detachment from health system is a major flaw. Primary health service system cannot function efficiently unless it is supported by hospitals in meeting patients' needs. This way, the hos-

pital is not just patient oriented, it will also play a role in preventive medicine, health care and health promotion (3).

According to experts 78.5% believed that the time of a doctor would not go to waste if referral system was performed correctly and 21% believed that instead of referring to a Patient Centered Medical Home (PCMH) patients should refer to health care centers directly and 64% believed that patients who refer to private sector see better results; 78% believed that people refer to PCMH more to benefit free of charge or cheaper care services and only 7% believed that an intern can diagnose and care diseases. Seventy eight percent of experts stated that if they lived in rural areas they would not refer to PCMH and about 50% believed that people are not interested in being visited by interns and

only 7% of the experts considered the referral system successful. Thirty five percent of experts admit the effectiveness and 42% admit the efficiency of this system. In this situation, most experts consider the referral system unsuccessful and with low rates of effectiveness and efficiency and state clearly that if people refer to the private sector directly, they will get better results and that it is due to financial issues that people refer to PCMH and regard interns unqualified for the diagnosis and caring their disease (4).

Similar researches

In a study titled "a survey of referral system in health care system and its reforms in the health care network of Kashan City", 23 health care centers at different levels of care services including PCMH, rural and urban health centers were investigated about the way people refer to hospitals. This research studied 1783 patients regarding referral function. Results indicated that 20% from PCMH, 11.9% from rural health centers and 9.1% of patients from urban health centers referred to higher level centers. It should be noted in pass that during this study, 46.3% of the patients had self-referral to hospital directly which requires health care service system be revised and reformed (5).

In a paper titled "patient reception and compliance with referral system in five educational health centers of Iran Medicine University" by Farbod EbadifardAzar, a cross sectional study in 5 university affiliated public hospitals was performed with 372 randomly selected patients. It showed that 18.5% of the patients were self-referral and of other patients, 66.8% referred with referral forms and 32.2% were without referral form. Results indicated that there was no mutual flow of information between levels of health care network (16).

A study performed in Riyadh suggested that implementing the referral system resulted in a 40.6% decrease in outpatients referring to hospitals and an 11.9% increase in patients who referred to primary health care centers and also a 19.2% increase in referrals; it then con-

cluded that there should be a strong relation between primary health care centers and hospitals in order to achieve a fine referral system (6).

3. Methodology

The research is a descriptive-analytic survey. The population consisted of clients who referred to public hospitals in the Cities of Isfahan, Falavarjan, ShahinShahr, Shahreza and Naein which was calculated 322 subjects based on sampling formula and estimated as 400 for accuracy.

A researcher - made questionnaire was used to collect data. The items asked about variables such as questions about awareness, satisfaction and motivation of clients in receiving services through referral system channel. Formal, content and structural validity of the questionnaire was confirmed by experts of the field. After a pilot study with 50 subjects, data were processed by SPSS 16 and questionnaire's reliability was calculated. With confirming the Cronbach's alpha (above 80%) by a statistics expert, questions were revised by *scale if item deleted*.

In data analysis section, questions about awareness, satisfaction and motivation were scored and analyzed according to the number of questions. Main factors and related tests (ANOVA) were analyzed based on obtained scores (8).

2. FINDINGS

The number of individuals with medical records at primary levels were more than others in the group of subjects with under diploma education. This number represents more interest among the undereducated in primary level services.

With a frequency of 58%, individuals with medical records in primary level health centers were more than those without any records. This shows the use of primary level service centers by people.

Fifty four percent of the urban population had medical records while more than 70% of the rural population had medical records. The result of statistical test for this variable was 0.02 indicating a significant relationship between them.

The Health Service Insurance

coverage for those without medical records were more than those with medical records. A comparison among different insurance organizations revealed that about 70% of people covered by Rural Insurance had medical records while this was 48% among people covered by Health Service Insurance. Social Security stood in the middle of the two with 59% and there was a significant difference among them since the result of statistical test equaled 0.01.

Individuals covered by Social Security with the frequency 49% had the most frequency in clients referring to public hospitals. Health Service Insurance was next with a 23% frequency.

About 90% of individuals covered by Rural Insurance and Health Service Insurance referred to primary level health service centers.

Individuals with under diploma education with the frequency 42.4% and those with diploma education with the frequency 34.3% had the most frequency among clients referring to public hospitals. The higher the education, the lower their frequency became.

Individuals with less than five million Rials income per month had the most frequency (81%) among clients referring to public hospitals. Individuals with more than ten million Rials income with a 3% frequency had the least frequency. In general, with income increase, the frequency of people referred to these hospitals decreased.

Percentage	Frequency	Introducer
5	18	PCMH
1	5	Station
9	34	Urban Center
6	24	Rural Center
25	94	Doctor's Office
13	47	Specialist' Office
21	81	ER
2	9	Friends
15	56	Self-Opinion
3	10	Other

Table 1. Frequency distribution of patients referred to public hospitals in Isfahan Province in the second half of 1387 (first half of 2009)

Based on the Table 1, it can be argued that only 21% of the clients were introduced to hospitals through referral system channel. Doctors' office with 25% had the

most frequency in introducing patients to public hospitals; ERs with 21% were next. Urban health stations with 1% had the least frequency in introducing patients to hospitals.

2.1. Findings about the research's purposes

Results about awareness showed that:

* There is no major difference in the urban and rural patients' awareness of referral system with that of urban patients slightly greater at 3.56 out of 5 or 71.2% and of rural patients at 3.54 out of 5 or 70.8%.

* There is no significant difference between awareness scores of referral system among individuals with different levels of education.

* There is no constant trend based on the relation of awareness improvement and increase or decrease of education. However, it is suggested that the highest rate of awareness of services and how they are provided at primary levels is among individuals with associate degree.

* The mean score of awareness is 3.6 out of 5 or 72% among clients referring to primary level health service centers and 2.65 out of 5 or 53% among those who do not refer to these centers for non-urgent services.

* There was no significant difference between them according to statistical tests suggesting that there is a relation between these two items.

Individuals with the awareness score 26-50 about referral system have the most frequency at 37% among clients referring to hospitals of Isfahan Province; but 56% of individuals have an awareness score above 50 suggesting that more than half the clients are aware of referral system.

Seven percent of the population have the lowest level of awareness and 37% have awareness scores from 25 to 50; 31% are with average awareness and finally, 25% of the population are highly aware of referral system and primary levels of service offering. Generally, the mean score of awareness in the whole population equals 59.16 out of 100.

Results about satisfaction indi-

cated that:

* Individuals totally satisfied with primary level services are the most frequent with a frequency at 54%. Whereas totally unsatisfied individuals have a 33% frequency suggesting a satisfactory function of primary level services in people's opinion.

* The mean score of satisfaction with primary level services are more for urban clients in comparison to rural clients. This score is 72.5% for urban and 58.3% for rural clients.

* The mean score of satisfaction is more for individuals with under diploma education in comparison to higher level educated people. Although the statistical test was not significant for these variables either.

* The mean score of satisfaction for each hospital shows that the lowest rate of satisfaction with primary level services belongs to Beheshti Hospital of Isfahan City with the score 40% and the highest rate belongs to Falavarjan Hospital with the score 77.5%.

2.2. Findings about motivation showed that

Individuals with average motivation for using primary level services with the frequency at 51% are the most frequent clients. Individuals with low motivation to use these services with the frequency at 16% are least frequent of the population suggesting that people referred to these hospitals are motivated to use primary level services.

The mean score of motivation to refer to primary level services is more for people with medical records; in fact the higher motivation is the cause of having medical records. Moreover, because of the medical records, people are motivated more to refer to these services.

The mean score of motivation among clients referring to primary level health care centers is 65.4% and 54.4% among those who do not refer to these centers for non-urgent services. This indicates that motivation is directly related to primary level services that is with higher motivation, people are more interested in using lower level services.

The mean score of motivation to

refer to primary level services is 65% for rural clients which is higher than that of urban clients. The rate of clients' motivation to refer to primary level health care centers is 62.1% among the rural population.

The highest rate of motivation to refer to primary level services is among clients of Amir Al Momenin Hospital with the score 65.5% and the lowest rate was 46.4% among clients of Beheshti Hospital.

2.3. Evaluation of research hypotheses

The calculation of correlation among clients referring to the hospitals suggested that there is a strong relation between public use of primary level health services and not referring directly to hospitals for non-urgent services and especially between their awareness of and satisfaction with provided services at these levels; but there was no significant relation between them regarding motivation. It therefore seems necessary for the health system promote the quality of services and provide them more at primary level services.

Relation	P-value
Correlation between awareness and use of primary level services in line with the fulfillment of referral system	0.00
Correlation between motivation and use of primary level services in line with the fulfillment of referral system	0.158
Correlation between satisfaction and use of primary level services in line with the fulfillment of referral system	0.003

Table 2. Correlation between the variables of the research

The correlation coefficient between awareness of referral system and the rate of satisfaction with these levels shows that these variables have an inverse relationship that is the higher the awareness, the lower the satisfaction is.

There is a significant difference between satisfaction and motivation among all hospitals.

There is a significant difference between awareness and motivation among all hospitals.

Regarding the sex of subjects, the P-value in one-way ANOVA is 0.58

confirming that there is no significant difference between two sexes in satisfaction with primary level services.

3. DISCUSSION

Ministry of Health and Medical Education is required to plan the providing system of a minimum standard of health care based on leveling the services so that people may have equitable access to health care services (The Law of Fourth Development Plan). Designing the referral system is rather simple and easy but its application is extremely difficult. Its efficiency depends on people and authorities' belief in various levels health system and their trust in the staff and also on the efficiency of information system regarding its facility, transport difficulties and costs of different health care levels (9). This study investigated factors involved in deficiency of the referral system. The variables were awareness, satisfaction, motivation and cultural variables (education, income, insurance company and residence).

These are discussed in detail as follows:

- * The rate of awareness was not fixed in the population with urban subjects were slightly more aware but the awareness of subjects who referred to Beheshti Hospital had the lowest rate and significantly different from those of other hospitals; this means that awareness promotion is essential in society. Contrary to expectations, education had no significant effect on the awareness of referral system.

- * The mean score of patients' satisfaction was 65.83 out of 100; in other words, 25% of the population were not satisfied with services in primary health care system. On the other hand, the result of statistical test of satisfaction effect on the use of health services at primary levels was 0.003 which is an indication of direct relation between the quality of services and the fulfillment of referral system process.

- * It is noteworthy that the rate of satisfaction with primary level services was not fixed. The highest rate was among the patients of Emam Khomeini with the score 77.3%. Ac-

cording to the statistical test, it was estimated that the mean score of satisfaction is of significant difference among various hospitals so that their improvement seems necessary.

Motivational factors such as health care costs, follow-up, feedbacks on care services, and short distance to health care centers, PCMHs and health stations were also investigated. Financial motivations were not effective according to statistical test while 60.5% of the population considered the use of health services through referral system channel as a way of reduction in family health expenditures. Results of this study is rather contrary to another research arguing that modifying the payment system is effective to financially motivate patients in order to fulfill the referral system process (10). About 52.9% of the subjects believed that services are actively provided and followed up. In contrast to other two variables, the motivation of rural patients was of high level.

Also, we need to follow and use experiences from other countries (12, 13, 14, 15).

4. CONCLUSION

Considering the well planned system in rural centers and those covered by Rural Insurance, it is expected that 100% of people covered by Rural Insurance refer to primary level services which also constitute more than 97% of the population. Comparing two insurance organizations namely Social Security and Health Service Insurance which form more than 70% of the population, those covered by Health Service Insurance referred more to primary levels while other groups referred to all levels. Since Health Service Insurance covers civil servants, it is suggested that this class of population was more aware of the referral system than others.

The expectation was that education could indirectly affect the fulfillment of referral system process through promoting awareness, while this was not the case in reality. The mean score of awareness did not differ among various levels of education. Highest mean score was among the group with associate de-

gree (regardless of those who chose the item other).

One of the implied tasks of the referral system is to reduce health care costs through leveling the services and as this study revealed, about 60.5% of the population believed that service delivery at primary level services and the referral system may reduce their health care costs. Twelve percent of individuals with five million Rials income or above referred to primary levels. The proportion of high income group was 15.5%. Although no direct or indirect relation was achieved from statistical tests.

4.1. Suggestions

With existence of Rural Insurance, there is no difference between rural and urban residence in receiving services through the referral system channel. Statistically speaking the result of statistical test in relation to patients' residence and their referral to primary level services is 0.1. But after comparing the frequency of patients who had been referred to hospitals by lower levels with that of patients referred by private offices, self-referrals and other system-external sources among rural and urban patients, a significant difference showed up which could be an indication of the commitments rural health care centers have in systematic referrals and follow-ups. This difference leads to systematization meaning that if primary level authorities were obliged to refer patients and at the same time secondary and tertiary level centers were obliged to ask patients for their referral forms, the process would be easier to achieve. Such a systematization does not exist for the moment as 68.5% of patients were not asked for their referral forms at the time of reception. Hoseini's (2005) (11) survey of referral situation also states that systematization only exists at primary levels.

Planning and balancing the per capita health insurance with treatment expenses, reduction in health care system costs, the promotion of the idea of optimal use of health care services and prevention of wasting sources, opening medical records and even digital records, prevention from frequent unnecessary referrals which

directly reduce costs of health care (7) and equitable access to health care services (4) are among the advantages of this systematization. In other words, the process of referral system is able to promote the efficiency of all human, material, financial and informational resources to their full potentials so that both patients and service providers could benefit these resources and optimize health care and prevent unnecessary referrals and wasting time and money in each center and level (7). Finally two major goals of health system namely justice and efficiency of resources are achievable through the fulfillment of referral system process with a promotion in the levels of awareness, motivation and satisfaction with primary level services and the way services are provided.

Having the findings of this researcher in mind about the effects of awareness, motivation and satisfaction, it could be argued that promotion in effective educations in the field could make national health system benefit from advantages of referral system. This is confirmed in another study by Samad Rohani about referral situation to Mazandaran Medical University Hospitals. It studied factors such as residence, rate of awareness, rate of referrals and payment system and its results indicated that promotion of awareness of referral system and responsibilities of each level is of high priority in order to correctly implement the referral system.

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