DEVELOPMENT OF THE HEALTH CARE SYSTEM IN ADJARA NEW APPROACH TO MANAGEMENT

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Abstract

The purpose of this paper is to study urgent pathology expansion peculiarities in the Autonomous Republic of Adjara, taking into account the social background of patients, and information about their working and social conditions. This paper will also study the complex valuation of preventive, curative, and aftercare medical aid potency, together with the framing and implementing of scientifically proven practical recommendations on the basis of the research results. In most cases, these diseases receive practically no conservative treatment and need urgent medical interference, yet patients do not admit themselves to hospitals in sufficient time for treatment because of possible expenses. It is without question that charges for belated treatment of urgent pathology are too high, not only for a patient's family, but for the budget of public health. This situation causes serious problems in the social and medical financing of the growing population. It should be noted that the cause for delay of medical interference is not just a financial problem, but an issue of a low literacy level, peculiarities in the flow of disease, transportation problems, etc.

Keywords: Health care; Acute care; Long term care

Introduction

The social-economic-political situation in Georgia makes it difficult to provide the population with accessible medical aid. Additionally, it causes chronization of disease and an increased rate of complicated urgent pathology.

A particularly difficult situation is in the sphere of emergency care. Even though the state program covers urgent aid, either from the central or local budget, the majority of patients still see specialists with delay.

In order to fulfill the purpose of this paper, the following tasks were accomplished:

- Study of how medical aid is used in Adjara (based on 2000-2012 data) and the evolution of its further optimization perspectives.
- Study of the dynamics of urgent pathology according to individual regions and towns.
- Delimitation of links between social-economic, social-hygienic and other factors that have an impact of urgent pathology.
- Study of the causes of disease complications in those patients who were admitted to hospitals. Characterization of organizational measures directed to prevention and complex evolution of their effectiveness.
- Working out a proper and practical recommendation on the basis of the research results.

Peculiarities of urgent pathology in the population of Adjara takes into account age, sex, income, medical activity at work and other social-hygienic factors. With the assistance of a systemic method, a scheme has been developed for preventative, curative and aftercare

effectiveness, in cases of urgent pathology. This scheme allows for scientifically proven regional fulfillment of Public Health programs. The research results provide us with important information about peculiarities of urgent pathology expansion in the population of Adjara. The information enables researchers to evaluate the health condition of the contingent, and to pinpoint the priority problems that detain successful prevention.

The peculiarity of urgent aid for the population of Adjara has been studied both on the level of primary health care clinics and hospitals. Also studied were the main causes of belated admission in hospitals and the specific character of risk factors that have an impact on belated admission.

The principles of adequate and appropriate diagnostics and the treatment algorithm of patients with urgent pathology have been developed to be used in the process of disease prevention in this group.

Material and research methodology

For the research process, materials have been taken from the following sources:

- The Ministry of Labor, Public Health and Social Affairs of Georgia and the Autonomous Republic of Adjara.
- Adjara Autonomous Republic Clinical Hospital and Batumi City Hospital.
- Medical Statistics Department and Public Health Department.

The research process used methods that include medical statistics, demographic, sociological and social-psychological approaches. The representative groups of patients were studied by specially designed questionnaire for those patients that were admitted to hospitals from 2000-2012. A total of 200 cases were documented.

A special map consisting of four parts and 40 questions had been designed for research purposes. The map addressed the study of the demographic characteristics of the inquired contingent which included their health condition, social status, evolution of social-psychological peculiarities, frequency of use of Health Care institutions before hospitalization, etc. During the research process, special attention was given to the reasons for belated hospitalization of the patient, their anamnesis, and the content of the interference and its outcome, etc.

The approach isolated items inquiring about social and household problems of the contingent as a separate block. In order to get a more trustworthy result, the information received from the regional polyclinic was compared with the data received from hospitals.

The process of working with medical documents was carried out according to different parameters: age, sex, disease diagnose date, first apply to doctor, etc. Analysis of documented materials was carried out in accordance with a special scheme, on the basis of expert evaluation. The study was carried out in accordance with appropriate criterion such as social-economic situations, the effect of risk-factors, etc.

The results of the study were tabulated with the help of modern, highly technological methods. Relative quantities (p), average error (m) for the evolution of plausibility of the results, and limits of credibility p±tm 95% of relative precision p±2m were collected. The research was carried out in its entirety by using a highly technological mathematical methodology. The research was conducted using software that used a standard format database.

In order to determine the links between signs, we have used the method of correlation analysis (k_{xy}). The analysis of materials was also carried out with the help of a single factor dispersion complex. While comparing the health index of patients with different sexual and age structures, we have also used the method of standardization which gives us the possibility to eliminate the impact of unequal structure in the case of index generalization.

Results

The process of developing and constructing modern medical institutions was started in Adjara from 1930. New branches of medicine were developed that had positive effects on the improvement of medical aid for the population. The number of dispensary-policlinic establishments was increased greatly.

Table 1. Main characteristics of development Public Health services in Adjara

	1940	1950	1960	1970	1980	2012
Quantity of Doctors (of all branches)	270	514	907	793	1028	1540
Average medical staff	524	1011	2411	3049	3602	1463
Quantity of hospitals	12	26	41	39	39	18
Quantity of hospital beds	877	1157	2160	3305	3895	929
Quantity of dispensary-polyclinic establishments	100	94	75	79	73	58

By 1970, it was possible to supply almost all inhabited locality with medical aid both in the mountain and seaside zones. Serious attention was paid to providing the high-mountainous areas of Adjara with appropriate staff.

During the USSR collapse and the formation of new, independent Georgia, an economic crisis was followed by the destruction of the financial and monetary-credit system. The industry was paralyzed and the traditional economic connections were broken off. The economic problems were aggravated by internal political disagreements, inspired by social-political movements and civil war, and by application of criminal forces that naturally negatively influenced the health condition of the population.

For years, supplying hospitals with the necessary amount of beds to provide care was considered to be one of the main tasks of policy in the public health service. At the same time, less attention was paid to the technical provision of beds. The introduction of new technologies was possible only with the construction of new hospitals. According to the existing rules, the staff and technical equipment in hospitals depended on a planned number of beds what led to the opening of large hospitals. With insufficient financing, the maintenance of these hospitals became almost impossible.

As a result, nowadays, there is only a small quantity of stationary hospitals that have conditionally met modern technological standards located on the territory of Georgia. The data given in the table points to the lowest average annual loading on hospital beds, bed-delay and bed-circulation (see table).

Table 2. Hospitalization and lethality in stationary medical establishments of Adjara (2012 data)

	Parameter of hospitalization On 100 000 inhabitants	Death %
Adjara	9214	1,6
Mountainous Georgia	5580.4	1.9

Hospitalization rates per 100,000 population in Western Europe are three times greater than in Adjara and the USA rate is four times greater. The analysis of these data shows that the problem of bed-fund optimization is extremely acute for Adjara as well as for Georgia as a whole what is proved by the following data (see Table 3).

Table 3. Parameters of bed-fund usage in Adjara (2012 data)

	Number of Beds	Beds	Load on Beds	Delay	Circulation
Adjara	929	239	6.1	38.8	
Mountainous Georgia	1784	118.7	8.6	13.7	

A similar situation is seen in services. In spite of the fact that during past years the situation was appreciably improved, for the most part bed utilization is low (see Table 4).

Table 4. Efficiency of beds usage in Adjara (2000-2012 data)

		Number of beds	Load on beds	Delay on beds	Circulation on beds
2000	Batumi	139	12.78	6.84	87.46
	Keda	25	3.48	5.72	19.92
	Kobuleti	55	6.02	7.15	42.75
	Shuakhevi	25	6.16	6.52	40.44
	Khulo	15	14.93	99.60	99.60
	Adjara	259	9.93	67.61	67.61
2012	Batumi	777	264,15	6,4	41,2
	Keda	20	101,65	3,9	25,8
	Kobuleti	72	117,7	4,0	29,3
	Shuakhevi	20	106,7	4,1	25,7
	Khelvachauri	22	65,7	6,3	10,3
	Khulo	18	156,3	4,2	32,3
	Adjara	929	239,3	6,1	38,3

As the data given in the table testifies that the efficiency of bed use in Adjara is questionable what undoubtedly points to the necessity of urgent optimization of this service. It is sufficient to note that annual loading on 55 beds of a structure in a Kobuleti hospital does not exceed 19-38 days, in Keda - 18-22 days, in Shuakhevi - 45 days, etc. The situation is analogues in Batumi where annual loading on 150 beds does not exceed 100 days. It is clear that in high-mountainous areas and the resort zone enough beds should be kept and at the same time it is necessary to increase intensity of their use. For example, in the Khulo area annual loading on 20 available beds is 90-100 days. The reference of patients in other hospitals (including Batumi) is much lower than from Shuakhevi and Keda.

As it is visible, in some hospitals (for example, in Batumi, Kobuleti, Shuakhevi) the number of experts exceeds the necessary quantity or amount; that in itself reduces activity and the quality of work in branches. It is indisputable that the environment has a huge influence not only on the health of the people, but also on their reference to medical establishments.

These similar tendencies are appreciable in the A.R. of Adjara. It is important to note that such situations are quite often not caused by real rates of growth of urgent pathology and socioeconomic character, but relates to accessible medical aid when a patient's deterioration of health is accompanied by contact with the medical worker, i.e., a rural ambulance station, polyclinic, first aid or hospital. The behavior of today's patient and the members of his or her family have strongly changed. Even when medical contact fails to improve the condition of the patient, the contact does not occur with the doctor or the patient's health is seriously compromised.

The results of the carried out research testify that the existing situation has caused not only low medical usage by the population, but also fear of the expected charges, difficulty in communicating with medical establishments (absence of telephone communication, transport, roads etc.), low level of sanitary conditions, etc.

As the analysis of the data testifies, most patients will delay seeing medical specialists. In spite of the fact that the fees of such care are covered under the state program, the patients do not believe in realization of promised privileges and as a last resort they agree to hospitalization.

As the data given in the table shows, late hospitalization also strongly depends on the late understanding of the danger of diseases by the patient and members of his or her family. It frequently explains inadequate behavior of the patient, not only with separate symptoms, but also at amplification and complication of general symptoms of illness.

Serious attention should be paid to the fact that one of the most prominent diseases is acute appendicitis, simply because of the way in which the urgent operations are carried out. The share of appendectomies grows from year to year, especially in the branches of Batumi, Kobuleti and Khulo. Thus, in 27,1 % of cases (exceeding the international statistical data) patients have arrived after long delays (24 hours or more), with the diagnosis of an acute stomach. From our point of view, the situation does not correspond to the reality and is caused more by economic, rather than medical reasons. These reasons require realization of additional organizational measures for reduction of hyper diagnosed cases and correct estimation of the patient's condition by the doctor.

Discussion

The results of our research, which concerns the knowledge level (literacy) of the population with urgent diseases, once again proves the necessity to access family and the younger generation as the main component of early preventive maintenance of such diseases. In spite of the fact that the diseases in this group do not undergo conservative treatment and require urgent intervention, most patients come to hospital with delay not so much to avoid financial expenditure, but because of a low level of knowledge (low health care literacy). The majority of patients with an urgent pathology who come to hospital with delay say that the reason of delay was not just inaccessibility or mistake of medical staff, but the carelessness of their own family members to attempt to correct a health problem by their own forces.

Despite these sets of problems, development of primary public health services in structures of the Ministry of Public Health Services of the A.R of Adjara has played a positive role and preservation of medical intervention sources in the high-mountainous areas.

This structure of primary public health services was cancelled in all regions of the country. In our opinion, the decision affects the availability of medical aid for the rural population (see Table 5).

Table 5. The structure of a network working in Georgia outpatient & polyclinical Establishments (2003 data)

	Polyclinic	Dispensary	Village Ambulance Station		Treatment centre	Institute	Women's clinic	Obstetrical centre	
			Indepen-dent	Included				Indepen-dent	included
Georgia	276	76	453	229	52	20	18	1	381
Adjara	11	0	47	0	16	375	0	1	7

As the table demonstrates, there are less village ambulance stations in Adjara than in other regions because of a reduction of high medical staff from high mountainous areas. At the same time the obstetrical-medical assistant services were not reduced and work effectively. During the research in the territory of Adjara, the regions were allocated with very different levels of late hospitalization in cases of urgent diseases.

It is necessary to note that allocation of medical services in these regions did not consider all risk factors. A number of those risks factors were not isolated which affects the current data. It is necessary to emphasize that the solution of the problem is closely connected to a combination of many risk factors which have been grouped into categories of risk.

Given the aforementioned factors, it is indisputable that to achieve improvements in health care specific principles must be examined. These principles include:

- Integrity of the system is created in which the characteristics of a complete system do not represent the mechanical unity of the properties and its elements but represent their unit interaction with new qualitative properties;
- Designing the structure of systems in which the use of the system is defined not only by action of its parts, but also properties of its structure;

- Mutual relation of structure and environment where during such interaction the system is conducted as an independent component;
- Hierarchy in which each component of the system is considered as a separate system;
- The opportunity of multilateral consideration of the system for an adequate perception of the system in which it is necessary to construct different models, each of which shows certain aspects of the system.

An increasing number of health care professionals are embracing new changes and accepting new principles of medical intervention. In any organization, it is necessary to take into account distribution of information in relationship to the hierarchical levels of hospital management because it makes the work of the chief executive more purposeful. However, in some cases the information that exceeds the framework of his or her competence could be transferred to the manager of a lower hierarchical level in public health service, especially when implementing medical measures which require the revealing of additional reserves, high effective utilization of resources, etc.

Taking into account the above, conditions resulted in a special block-scheme, i.e., a graphic depiction of measures essential for receiving results which will seriously improve prevention and appropriate treatment. Business contacts between employer and employee may enforce labor motivation and improve the quality of work. It should be noted that the studied contingent mostly consists of healthy people who were in difficult situations where their protective mechanism was weak or did not work at all. Employee sponsored health insurance is needed.

In many countries of Europe, as well as in Georgia, reforms of financing and organization of public health service are actively carried out. Similarly, work is being carried out in Adjara. The basis of the reform is accessibility to medical service and its impartial distribution among all social layers of the population. The criterion of evaluation for the reform is not based just on short-term economy of budget of Adjara, but on the main criterion of evaluation of population health conditions.

Additionally, since 2012 the main strategy of development of public health service in Adjara will be determined by the following points:

- Strengthening the role of public health service;
- Strengthening the network of first medical aid;
- Optimization of hospitals and funds for beds;
- Preparation of logistics for formation of a referral system;
- Overcoming the problems connected with lack of resources;
- Determining priorities of public health service;
- Creating the fair system of financing of public health;
- Supporting private sectors in the spheres of public health.

It is clear that multiple changes are needed and must be implemented concurrently to carry out optimization of public health service system in Adjara.

Conclusion

The results of the study of service development in the Autonomous Republic of Adjara confirm that the effect of usage of existing forces is extremely low. It is noted that the spread of acute disease has increased at an extreme rate in the population of Adjara which determines the social and medical importance of this pathology. At the same time, patient's reference to doctors appreciably decreases as a result of the existing social-economic-political factors.

In the ethiopathogenesis of acute disease alongside with traditional risk factors, there are other psychological peculiarities which not only create a premorbid background, but also cause inadvisable aggravation.

Psychopathological and vegetative matters and inadequate reaction to disease has an impact on the progression of disease and the prognosis of treatment.

Personal attitude of patients has an appreciable impact on the process of rehabilitation and sometimes even determines the prognosis.

In cases of acute diseases, inadequate and in most cases belated medicamentous treatment determines belated hospitalization and inadvisable prognosis of treatment.

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