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The Role of Continuity in the Provision of Medical Care to Patients Diagnosed with Coronary Heart Disease

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ABSTRACT

INTRODUCTION. More than 36 million people die from NCDs each year (63 % of deaths worldwide), of which 14 million people die prematurely, that is, before the age of 70 years, the majority could be prevented through the organization of continuity and consistency in the organization of health care. In 2021, based on the experience of developed countries of the world, a standard form of the «Algorithm» for patient care in an outpatient setting after hospital treatment was developed (including stages of observation, periods of clinical examination and mechanisms for organizing rehabilitation services, including diet, exercise therapy and sanatorium-based treatment). A study was conducted among patients diagnosed with coronary heart disease regarding the organization of continuity and consistency of rehabilitation services after inpatient treatment in conditions outpatient clinics in the Yakkasaray district of Tashkent.

AIM. To study the practice of applying the organization of continuity and consistency in the provision of medical care for NCDs in Uzbekistan.

MATERIALS AND METHODS. The materials were the results of a study of patients diagnosed with coronary heart disease in 2021 — 537 patients and in 2022 — 596 patients in the Yakkasaray district of Tashkent. Retrospective, analytical research methods were used for the analysis.

RESULTS. In 2021, a total of 537 patients diagnosed with coronary heart disease received inpatient treatment in family clinics of the Yakkasaray district, and only 195 (36 %) brought discharge summaries, 195 (100 %) patients were taken for treatment as prescribed by doctors at outpatient clinics — control, 173 (88 %) 10 (5 %) underwent ECG and EchoCG, respectively, and 12 (6 %) patients were sent to sanatorium treatment. In 2022, in family clinics of the Yakkasaray district, a total of 596 patients received inpatient treatment, of which 535 (89 %) brought a discharge summary of inpatient treatment, 535 (100 %) patients were taken for D-control as prescribed by doctors from outpatient clinics, 535 (100 %) active patronage was established with an explanation of proper nutrition, physical activity, physiotherapeutic treatment, and 84 (16 %) patients were sent to sanatorium treatment.

CONCLUSION. Continuity and consistency are important in improving the quality of medical care, so healthcare organizers need to introduce new methods and improve existing approaches to improve the relationship between inpatient and outpatient clinics.

KEYWORDS: continuity, extract from medical records, coronary heart disease.

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Непрерывность как основной принцип работы учреждений первичной медицинской помощи пациентам с ишемической болезнью сердца

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РЕЗЮМЕ

ВВЕДЕНИЕ. Ежегодно от неинфекционных заболеваний умирает более 36 млн. человек (63 % смертей в мире), из них 14 млн человек умирают преждевременно, т.е. в возрасте до 70 лет, причем большую часть можно было бы предотвратить путем обеспечения непрерывности и последовательности в организации медицинской помощи.

ОБСУЖДЕНИЕ. В 2021 г. на основе опыта развитых стран мира была разработана стандартная форма алгоритма ведения пациента в амбулаторных условиях после стационарного лечения (включающая этапы наблюдения, периоды диспансеризации и механизмы организации реабилитационных услуг, в том числе диеты, лечебной физкультуры и санаторно-курортного лечения). Проведено исследование среди пациентов с диагнозом ишемической болезни сердца по организации преемственности и последовательности реабилитационных услуг после стационарного лечения в условиях амбулаторно-поликлинических учреждений Яккасарайского района г. Ташкента.

ЦЕЛЬ. Изучить практику применения организации непрерывности и последовательности оказания медицинской помощи при неинфекционных заболеваниях в Узбекистане.

МАТЕРИАЛЫ И МЕТОДЫ. Материалом послужили результаты исследования больных с диагнозом ишемической болезни сердца в 2021 г. — 537 пациентов и в 2022 г. — 596 пациентов в Яккасарайском районе г. Ташкента. Для анализа использовались ретроспективный, аналитический методы исследования.

РЕЗУЛЬТАТЫ. В 2021 г. в семейных клиниках Яккасарайского района на стационарном лечении находилось 537 пациентов с диагнозом ишемической болезни сердца, из них только 195 (36 %) пациентов имели при себе выписки из истории болезни, 195 (100 %) пациентов были приняты на лечение по назначению врачей в амбулаторных клиниках — контроль, 173 (88 %) 10 (5 %) пациентов прошли ЭКГ и ЭхоКГ соответственно, 12 (6 %) пациентов были направлены на санаторно-курортное лечение. В 2022 г. в семейных клиниках Яккасарайского района стационарное лечение получили 596 пациентов, из них 535 (89 %) принесли выписки о стационарном лечении, 535 (100 %) пациентов были взяты на D-контроль по назначению врачей из амбулаторных клиник, над 535 (100 %) был установлен активный патронаж с разъяснением правильного питания, физической активности, физиотерапевтического лечения, 84 (16 %) пациента были направлены на санаторно-курортное лечение.

ЗАКЛЮЧЕНИЕ. Непрерывность и последовательность важны для повышения качества медицинской помощи, поэтому организаторам здравоохранения необходимо внедрять новые методы и совершенствовать существующие подходы для улучшения взаимоотношений между стационаром и поликлиникой.

КЛЮЧЕВЫЕ СЛОВА: непрерывность, выписка из медицинской карты, ишемическая болезнь сердца.

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INTRODUCTION

According to the World Health Organization (WHO), noncommunicable diseases (NCDs) (cardiovascular diseases, cancer, chronic respiratory diseases and diabetes) are the leading causes of death in the world. More than 36 million people die from NCDs each year (63 % of global deaths), of which 14 million die prematurely, that is, before the age of 70 years. Low- and middle-income countries already bear about 80 % of the burden of such premature mortality, which is attributable to the four most common risk factors—tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol and is largely preventable. According to expert forecasts, if current trends continue, by 2030 the NCD epidemic will claim 52 million human lives annually [1–3]. This situation poses a threat not only to human health, but also to development and economic growth. NCDs cost billions of dollars in national income, and rising health care costs push millions of people into poverty every year. For all countries, the cost of inaction significantly exceeds the costs of action, but developing countries suffer the most [2–4].

Considering the prevalence of NCDs among patients, in particular those diagnosed with coronary heart disease and type 2 diabetes mellitus, issues of continuity in the management of such patients are currently relevant. Namely: timely provision of assistance at the outpatient stage, avoidance of duplication of measures, early, effective rehabilitation, which begins already at the inpatient stage of patient treatment. The main goal of rehabilitation is to adapt disabled people and people who have temporarily lost their ability to work to normal life through a series of special measures. Secondary prevention of coronary heart disease and type 2 diabetes mellitus has a significant

impact on the long-term outcome of patients, helps reduce disability, reduce temporary disability, reduces the risk of repeated exacerbations and improves quality of life and level of health [5].

Continuity is one of the basic principles of the work of medical institutions. Continuity in healthcare means the implementation of uniform tactics in the treatment of people, medical care of the population in various medical institutions in order to achieve a single strategic goal — restoration (preservation) of health, especially for patients with chronic non-infectious diseases, such as coronary heart disease and type 2 diabetes mellitus. The significance of the problem of continuity between polyclinics and hospitals in the examination, diagnosis and treatment of patients increases in the conditions of restructuring of medical and preventive care, increasing the role of its primary care, prospects for the development of general medical (family) practice, giving polyclinics the status of centers of diagnostic, consultative and specialized care, development of a network intensive care units in outpatient settings [6–8].

As we know, for patients, continued treatment in an outpatient setting after discharge from hospital is essential. At the same time, in our opinion, the discharge summary from the medical history should describe in more detail issues related to diet, physical activity and disease prevention, as well as possible complications and risks of readmission. In this regard, in 2021, we developed a standard form of the «Algorithm» for patient care after inpatient treatment (including stages of observation, periods of clinical examination and mechanisms for organizing rehabilitation services, including diet, exercise therapy and sanatorium treatment). After a discussion with specialists at the Tashkent City Main Directorate of Health Care, an appeal was sent to the Republican Specialized Medical Centers so that they could help develop «Algorithms for patient care in outpatient clinics», according to their profile of patients and the approximate form we presented for the main and most common diseases. Over the next 3 months, algorithms were received from republican specialized medical centers for 11 major diseases (Table 1).

Algorithm of the Outpatient Follow-Up of Patients after the Inpatient Treatment Diagnosed with Coronary Heart Disease

I. General Definition of the Disease

Coronary heart disease is a common disease of the cardiovascular system; is accompanied by myocardial ischemia and coronary circulation disorders. Coronary heart disease (CHD) is mainly caused by the lack of blood circulation in the heart muscles as a result of atherosclerosis of the coronary (coronary) arteries, and because of this, the heart does not receive blood. Coronary heart disease includes angina pectoris (initial, stable, unstable), myocardial infarction, post-infarction cardiosclerosis, arrhythmic type and heart failure. Coronary heart disease is a serious heart disease that develops regularly. As a person grows older, the incidence of disease increases. CHD is clinically variable, intermittent and intermittent. Often, the ischemic heart disease goes away, and the patient does not know that he has such a dangerous disease and does not consult a doctor. Usually, one of the first clinical signs of the ischemic heart disease is an attack of angina pectoris, which occurs during physical work or a mental stress. Later, the disease can last a long time, even years. Its severe manifestations include an acute coronary syndrome, an acute myocardial infarction and a sudden death.

The factors affecting the development of CHD are as follows:

- Overweight, metabolic diseases, endocrine diseases, sedentary lifestyle;
- experiencing regular emotional stress, depression, tragic events, loss of loved ones;
- strong nervous tension due to problems at work;
- genetic predisposition;

Table 1. Algorithms for patient care after inpatient treatment in outpatient clinics

No.	Name of algorithms
1	Algorithm for outpatient observation of patients after hospital treatment with a diagnosis of «Chronic obstructive pulmonary disease»
2	Algorithm for outpatient monitoring of patients after hospital treatment with a diagnosis of bronchial asthma
3	Algorithm for outpatient monitoring of patients after hospital treatment with a diagnosis of Pneumonia
4	Algorithm for outpatient monitoring of patients after hospital treatment with a diagnosis of liver cirrhosis
5	Algorithm for outpatient monitoring of patients after hospital treatment with a diagnosis of «Coronary heart disease»
6	Algorithm for outpatient monitoring of patients after hospital treatment with a diagnosis of hypertension
7	Algorithm for outpatient monitoring of patients after hospital treatment with a diagnosis of «Chronic heart failure»
8	Algorithm for outpatient monitoring of patients after hospital treatment with a diagnosis of «Chronic renal failure»
9	Algorithm for outpatient monitoring of patients after hospital treatment with a diagnosis of «Neurogenic bladder»
10	Algorithm for outpatient monitoring of patients after hospital treatment with a diagnosis of «Prostatic hyperplasia»
11	Algorithm for outpatient monitoring of patients after hospital treatment with a diagnosis of urolithiasis

- age-related changes in blood vessels;
- high level of cholesterol in the blood, as a result of which atherosclerotic plaques and accumulations are formed in the walls of blood vessels;
- harmful habits (smoking, alcohol consumption).

II. The Sequence of Activities Performed in an Outpatient and Polyclinic Facility

In order to prevent attacks and ensure the provision of a quality medical care to the patient, to ensure the performance of the following measures in the ambulatory-polyclinic setting for patients treated in the hospital with this diagnosis:

- taking the patient under «D» control in a timely manner and determining the annual rehabilitation measures;
- monthly cardiologist check-up (ECG, EchoCG, coagulogram, determination of blood lipids every 3 months). If necessary, correction of drugs and their dosages;
- 2 times a year medical examination by specialists in a narrow field;
- organization of active patronage every month;
- formation of a nutritional diet for the patient (increased consumption of foods containing vegetable fiber and dairy products, limiting the consumption of meat and fatty foods, reducing the consumption of bran and additives that stimulate intestinal motility in foods, on average, 1,5-2 per day of the patient drinking a liter of liquid (counting with the first meal), consuming kefir from juices, ginseng tea, dried fruit compotes and dairy products;
- during the treatment of patients with drugs, the prevention and further development of CHD, as well as other symptomatic (if necessary) drug therapy (if the doses and drugs are indicated); (antiaggregants, beta-blockers, statins, ATP inhibitors, if necessary, calcium antagonists, trimetadizine);
- recommend physical therapy physical therapy, dosed walking according to an individual and customized plan to patients with CHD;
- psychotherapy, hyperbaric oxygenation, electric sleep, laser, acupuncture and massage methods should be used;
- to recommend sanatorium treatment according to the profile once a year.

Meals at CHD

First of all, products containing «bad» cholesterol and a large amount of salt should be excluded from the daily diet. To them:

- fatty meat;
- fried foods;
- smoked products;
- includes pickles.

In addition, it is useful to eat bread kept for a day or two, instead of fresh bread taken from the oven. More foods that are rich in vitamins, minerals and help fight disease should be included in a daily diet.

Patients are sent to sanatoria (Turon, Botanika, Boston, Chortoq, Kohinur, Yangier, Khanka, etc.), https://sihatgoh.uz.

After collecting and combining the «Algorithms» into methodological recommendations, in accordance with the letter of the Main Department of Health Care of Tashkent No. 01/1848 dated June 16, 2022, the Yakkasaray District Medical Association of Tashkent was sent to conduct an experiment, putinto practice «Algorithms for patient care after inpatient treatment in outpatient clinics», summarizing the results and conducting a comparative analysis with the control group. Among the workers of outpatient clinics in the Yakkasaray district, explanatory work was carried out on the use of «Algorithms for patient care after inpatient treatment in outpatient clinics», including the «Algorithm for outpatient monitoring of patients after inpatient treatment with a diagnosis of coronary heart disease» during seminar classes. In addition, an instruction was sent that all medical and preventive institutions operating in the territory of Tashkent, regardless of the form of ownership and departmental affiliation, must send discharge summaries of patients from the medical history to outpatient clinics at their place of residence.

AIM

To study the practice of applying the organization of continuity and consistency in the provision of medical care for NCDs in Uzbekistan.

MATERIALS AND METHODS

The materials were the results of a study of patients diagnosed with coronary heart disease in 2021 — among 537 patients and in 2022 — 596 patients in the Yakkasaray district of Tashkent. Retrospective, analytical research methods were used for the analysis. Based on outpatient records, patients diagnosed with coronary heart disease were divided into 2 groups, 1 group of patients who submitted a discharge summary and 2 group of patients who did not submit a discharge summary to the family doctor. Analysis and study of outpatient records was carried out to determine clinical examination, follow-up of patie nts and rehabilitation measures according to a specially developed table. Based on the results of the study, the data obtained were grouped and entered into a special program, Microsoft Excel-2021.

RESULTS

To conduct and analyze comparative results, we retrospectively studied the results of organizing medical care for patients after inpatient treatment in outpatient clinics in the Yakkasaray region. According to the data, in 2021, a total of 57, 58, 59, 60 family clinics received inpatient treatment for 537 patients diagnosed with coronary heart disease. Of these, 195 (36 %) brought a discharge summary from hospital treatment, 195 (100 %) patients were taken for D-control, they were consulted with a cardiologist, diagnostic studies were carried out (ECG, EchoCG, coagulogram, lipids), active patronage was established with explaining questions regarding proper nutrition, physical activity, physiotherapeutic treatment, and 12 (6 %) patients were referred to sanatorium and resort institutions (SRI) (Table 2).

At the same time, having studied the results for 2022 in 57, 58, 59, 60 family clinics, we obtained the following results. A total of 596 patients in the Yakkasaray district with a diagnosis of coronary heart disease received inpatient treatment, of which 535 (89 %) brought discharge summaries after inpatient treatment. 535 (100 %) patients were taken for D-control, they were consulted with a cardiologist, diagnostic studies were performed (ECG, EchoCG, coagulogram, lipids), active patronage was established with an explanation of proper nutrition, physical activity, 89 (17 %) received physiotherapy treatment and 84 (16 %) patients were referred for SRI (Table 3).

Table 2. Results of the organization of medical care for patients diagnosed with coronary artery disease after inpatient treatment in outpatient clinics in the Yakkasaray region (data for 2021)

Family clinics	Total treated in inpatient facilities	Including **NOT REPRESENTED** discharge summary (quantity)	Including						Active patronage	The recommendations presented on			Read in sanatorium
			D medical examination	Passed a cardiac examination	Diagnostic and laboratory tests								
					ECG	EchoCG	Coagulogram	Lipids		Proper nutrition	Physical activity	Physiotherapy	
57	74	58	10	10	10	1	0	0	10	10	10		0
58	186	102	24	24	24	2	0	0	24	24	24		1
59	215	134	32	32	32	3	0	0	32	32	32		2
60	62	48	8	8	8	1	0	0	8	8	8		0
Total for Yakkasaray district	**537 (64%)**	**342 (22%)**	**74 (22%)**	**74 (22%)**	**74 (22%)**	**7 (2%)**			**74 (22%)**	**74 (22%)**	**74 (22%)**		**3 (1%)**

Family clinics	Total treated in inpatient facilities	Including **REPRESENTED** discharge summary (quantity)	Including						Active patronage	The recommendations presented on			Read in sanatorium
			D medical examination	Passed a cardiac examination	Diagnostic and laboratory tests								
					ECG	EchoCG	Coagulogram	Lipids		Proper nutrition	Physical activity	Physiotherapy	
57	74	16	16	12	12	2	0	0	16	16	16		2
58	186	84	84	75	75	3	0	0	84	84	84		4
59	215	81	81	76	76	4	0	0	81	81	81		4
60	62	14	14	10	10	1	0	0	14	14	14		2
Total for Yakkasaray district	**537**	**195 (36%)**	**195 (100%)**	**173 (88%)**	**173 (88%)**	**10 (5%)**			**195 (100%)**	**195 (100%)**	**195 (100%)**		**12 (6%)**

Table 3. Results of the organization of medical care for patients diagnosed with coronary artery disease after inpatient treatment in outpatient clinics in the Yakkasaray region (data for 2022)

Family clinics	Total treated in inpatient facilities	Including **NOT REPRESENTED** discharge summary (quantity)	Including						Active patronage	The recommendations presented on			Read in sanatorium
			D medical examination	Passed a cardiac examination	Diagnostic and laboratory tests								
					ECG	EchoCG	Coagulogram	Lipids		Proper nutrition	Physical activity	Physiotherapy	
57	97	14	13	9	4	2	4	3	13	13	13	0	2
58	178	13	eleven	3	3	2	0	0	13	13	13	0	0
59	214	10	8	4	4	1	0	0	8	8	8		
60	107	24	21	19	19	9	7	3	21	21	21	2	3
Total for Yakkasaray district	**596**	**61 (10%)**	**53 (87%)**	**35 (57%)**	**35 (57%)**	**14 (23%)**	**11 (18%)**	**6 (10%)**	**55 (90%)**	**55 (90%)**	**55 (90%)**	**2 (3%)**	**3 (5%)**

Family clinics	Total treated in inpatient facilities	Including **REPRESENTED** discharge summary (quantity)	Including						Active patronage	The recommendations presented on			Read in sanatorium
			D medical examination	Passed a cardiac examination	Diagnostic and laboratory tests								
					ECG	EchoCG	Coagulogram	Lipids		Proper nutrition	Physical activity	Physiotherapy	
57	97	83	83	65	65	28	34	thirty	83	83	83	28	22
58	178	165	165	154	154	21	78	78	165	165	165	17	3
59	214	204	204	185	204	15	40	40	204	204	204	42	56
60	107	83	83	39	39	9	7	3	83	83	83	2	3
Total for Yakkasaray district	**596**	**535 (89%)**	**535 (100%)**	**443 (83%)**	**462 (92%)**	**73 (14%)**	**159 (30%)**	**151 (28%)**	**535 (100%)**	**535 (100%)**	**535 (100%)**	**89 (17%)**	**84 (16%)**

In addition, a study was conducted for the control group in outpatient clinics in the Bektemir and Sergeli districts. If in the 69th family clinic in the Bektemir region, 450 patients received inpatient treatment with a diagnosis of «Coronary Heart Disease», 115 (25%) patients received a discharge summary and underwent medical examination, of which 105 (91%) patients underwent control ECG studies, 27 (23 %) EchoCG, 30 (26%) coagulogram, 25 (22%) patients underwent lipid spectrum analysis. Of the 445 people who underwent inpatient treatment, 396 (89%) patients received active patronage, of which 345 (87%) received advice on proper nutrition, 245 (62%) on physical activity, 161 (41%) received physiotherapeutic treatment. In 12 and 13 family clinics of the Sergeli district, 346 patients received inpatient treatment with a diagnosis of «Coronary Heart Disease», 333 (96%) patients submitted discharge summaries to the family doctor, of which 328 (98%) patients underwent control ECG studies, 207 (62 %) EchoCG, 212 (64%) patients underwent a coagulogram and 76 (23%) patients underwent a study of lipid composition. Of the 333 persons who underwent inpatient treatment, 333 (100%) patients received active patronage, received advice on proper nutrition and physical activity, and 161 (41%) received physiotherapeutic treatment.

CONCLUSION

Thus, after carrying out outreach work on the need to collect discharge summaries of patients who received inpatient treatment, conducting outreach work on the implementation of «Algorithms for patient care after inpatient treatment in outpatient clinics» among family doctors on the organization of rehabilitation services for patients with coronary artery disease heart, as well as conducting retrospective data, it was revealed that from 36% (2021) to 89% (2022) the number of people who submitted discharge epicrisis to the family doctor increased, in absolute numbers the number of those registered as «D» increased from 195 (2021) increased to 535 (2022), the number of patients who were examined by a cardiologist from 173 (2021) increased to 443 (2022), cases of ECG increased from 173 (2021) to 462 (2022) and EchoCG from 10 (2021) to 73 (2022), as well as active patronage, consultations on proper nutrition, physical activity from 195 (2021) increased to 535 (2022), and from 12 (6%) in 2021 to 84 (16%) in 2022, patients were sent for sanatorium treatment.

ADDITIONAL INFORMATION

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