

# A study of adherence to treatment and influencing factors it in patients with ischemic heart disease.

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## Abstract

Adherence to treatment in patients with ischemic heart disease was studied. The study was conducted in 108 patients aged 55-68 years. A special questionnaire was distributed to each patient and the obtained results were studied. Adherence to treatment was compared between stented patients and drug-only patients. Also, in order to study the factors affecting patients' adherence to treatment, a special questionnaire was prepared and the patients' answers were recorded. In this way, the most important factors affecting the adherence of patients to treatment were determined.

**Keywords:** Ischemic heart disease, adherence to treatment, stenting of coronary vessels, factors affecting adherence to treatment.

**Aim of the study:** A study of adherence to treatment and influencing factors it in patients with ischemic heart disease.

**Material and methods:** 108 patients with ischemic heart disease treated at the Neo Med Cardio clinic were selected for the study. The average age of patients is 62 years. 60 of the selected patients are women and 48 are men. Coronary artery stenting was performed in 20 of the patients taken for the study, while the remaining patients are being treated only with medication. Patients' adherence to treatment and factors affecting it were studied with the help of special questionnaires.

**Results:** According to the results of the Morisky-Green questionnaire, 32.4% of patients with a high adherence to treatment, 42.6% of those with an average adherence, and 25% of patients with a low adherence to treatment. It was found that the most important factors influencing adherence to treatment are forgetfulness, fear of side effects of drugs, insufficient communication between the doctor and the patient.

**Conclusion:** Patient medication non adherence is a major medical problem globally. Almost two out of three patients violate the medication regimen. Identifying and eliminating the main factors that influence treatment adherence can improve patient adherence to treatment, while improving quality of life and disease outcomes.

## Introduction

Ischemic heart disease is one of the most common cardiovascular diseases worldwide. According to the World Health Organization, cardiovascular diseases account for approximately 32% of deaths worldwide, and the leading cause is ischemic heart disease[1]. Ischemic heart disease is widespread among the elderly population all over the world, including in Uzbekistan, and is one of the main causes of death. Observations have shown that 5-8% of men aged 20-44 and 18-24.5% of men aged 45-69 have ischemic heart disease[5]. Therefore, solving the problem of effective treatment of patients with ischemic heart disease remains one of the most urgent tasks of modern cardiology. In recent years, the death rate has not been significantly reduced despite the significant expansion of treatment options for cardiovascular disease, which include effective drug therapy, exercise, diet, and, in some cases, surgical intervention. One of the main reasons for this is the low adherence of patients to treatment[2,3,4]. As one of the most important goals of treatment is to improve the quality of life of patients with ischemic heart disease, and thereby reduce the mortality rate, the most important task in achieving it is to study and increase patients' adherence to treatment. In recent years, the problem of patients' adherence to treatment is very urgent and recognized as one of the most serious and widespread problems in

medical practice[3]. Early detection of nonadherence in patients can prevent expensive tests, hospitalizations, and unnecessary additional medications and interventions. At the same time, high adherence to treatment has a positive effect on the life expectancy of patients[2,4].

**The purpose and objectives of the research.** A study of adherence to treatment and influencing factors in patients with ischemic heart disease.

Determining adherence to treatment in patients with ischemic heart disease who underwent and did not undergo stenting.

Study of factors affecting adherence in patients with low adherence to treatment.

**Material and methods.**

For the study, 108 patients with ischemic heart disease who were treated inpatient at the Neo Med Cardio clinic in Tashkent were selected. Their age is between 55-68, the average age is 62. 60 (55.56%) of the selected patients were women and 48 (44.44%) were men. 20 (18.5%) of the patients included in the study underwent stenting of coronary vessels, while the remaining 88 (81.5%) patients were treated only with medication. A special test questionnaire Morisky-Green questionnaire (using the MMAS-8 questionnaire) was used to study treatment adherence in patients. The Morisky-Green questionnaire consists of 8 questions related to patients' acceptance of drugs. These questions are as follows: 1. Do you sometimes forget to take medicine?; 2. In the past 2 weeks, was there a day when you forgot to take medicine?; 3. Have you stopped taking or reduced the dose of medication without telling your doctor because you felt worse than before?; 4. Do you sometimes forget to take medicine while traveling or away from home?; 5. Did you take your medicine yesterday?; 6. Do you stop taking medicines when you feel that your health is good?; 7. Have you ever been disappointed by the need to strictly adhere to the treatment regimen for ischemic heart disease? 8. How often do you have trouble remembering time to take your medication? The results are evaluated as follows: high adherence to treatment – 8 points; Average adherence to treatment - 6-7 points; Low adherence to treatment - < 6 points. In addition, in purpose to study the factors affecting adherence, a special questionnaire was prepared and the answers of patients were collected and studied.

**Results.**

According to the results of the Morisky-Green questionnaire, all patients were divided into 3 groups. These are as follows: 35 people (32.4%) with a high adherence to treatment (8 points and above); patients with average adherence (6-7 points) - 46 (42.6%); patients with low adherence (< 6 points) - 27 (25%). It was found that men recruited for the study had a higher adherence to treatment than women. In men (48), the results are as follows: those with a high adherence to treatment - 17 patients (35.42%); those with average adherence to treatment - 21 patients (43.75%); there were 10 patients (20.83%) with low adherence. In women (60), patients with high adherence - 18 (30%), patients with moderate adherence - 25 (41.67%) and 17 (28.33%) patients with low adherence to treatment. Of 20 patients underwent coronary stenting, 15 (75%) had high adherence, and of the remaining 5 patients, 3 (15%) had moderate adherence and 2 (10%) had low adherence made up. The results of the questionnaire conducted among patients receiving drug treatment only (88 patients) are as follows: the number of patients with a high adherence to treatment is 20 (22.7%), those with an average adherence to treatment are 43 (48.9%) and 25 (28.4%) had low adherence to treatment. The results are presented in Table 1.

**Table 1.**

Results of the Morisky-Green questionnaire in patients with ischemic heart disease (MMAS-8)

Patients	High adherence to treatment (%)	Moderate adherence to treatment (%)	Low adherence to treatment (%)
Patients who underwent coronary artery stenting	75%	15%	10%
Patients who have not undergone coronary stenting	22,7%	48,9%	28,4%
Womens	30%	41,67%	28,33%
Mens	35,42%	43,75%	20,83%
Total	32,4%	42,6%	25%

According to the results of a special questionnaire conducted to study the factors affecting adherence, the factors that most influence patients' adherence to treatment are as follows: 1. Forgetfulness (almost 95% of patients forgot to take medicine at least once); 2. Fear of side effects of drugs or harm to health when taking drugs for a long time (50-60% of patients); 3. High price of recommended drugs (20-30% of patients); 4. The need to take a lot of medicines at the same time (40-50% of patients); 5. Very complicated procedure of taking medicines (20-25%); 6. Doubting the correctness of the prescribed treatment (in 10-15% of patients). 7. Lack of communication between doctor and patient (the doctor did not provide enough information about the disease and its treatment method) - almost 35% of patients. The above are the most common factors affecting patient adherence to treatment, and many other factors may play a role.

**Discussion.**

According to the results of the study, 1/4 of the patients have a low adherence to treatment and do not follow the recommendations of the attending physician sufficiently. The study also found that men had slightly better adherence rates than women. When comparing the results obtained in men and women, it was found that there was a significant difference between percent of patients with a high adherence for treatment. Women with low adherence to treatment are almost 8% more likely than men with low adherence to treatment. The results obtained from coronary artery stenting and non-stenting patients clearly show that insufficient doctor-patient communication is an important factor affecting adherence to treatment. Because the majority of patients who underwent coronary artery stenting claim that they did not adhere with the treatment before the procedure, and that after the stenting procedure, the doctors explained the disease, its consequences, and treatment methods sufficiently and after that he says that he always tried to follow the recommendations given by the doctor (Table 2).

**Table 2.**

Adherence to treatment in patients with ischemic heart disease

the difference between patients who underwent coronary artery stenting and those who did not

	Patients who underwent coronary artery stenting	Patients who have not undergone coronary stenting	DIFFERENCE
High adherence to treatment (%)	75%	22,7%	52.3% more in patients who underwent stenting
Moderate adherence to treatment (%)	15%	48,9%	33.9% less in patients underwent stenting
Low adherence to treatment (%)	10%	28,4%	18.4% less in patients undergoing stenting.

When comparing patients who underwent coronary artery stenting and those who did not, it was found that there was a huge difference between the stratum with a high adherence for treatment. Forgetfulness is the most common cause of poor patient adherence to treatment, and the fight against it depends largely on the success of doctor-patient communication, the patient's trust in the doctor, including the patient's interest in the success of the treatment.

**Conclusions.**

1. One of the biggest obstacles in our efforts to improve the treatment and quality of life of patients with ischemic heart disease is patients' poor adherence to treatment. In addition to personal factors of patients (forgetfulness), the main reasons for low adherence to treatment are the high cost of prescribed drugs, fear of side effects of drugs, fear of harming health with long-term use of drugs, low awareness of patients about their diseases and etc. In addition to the above reasons, the fact that the doctor does not provide enough information to the patient about the possibilities of modern therapy to significantly improve the quality of life, improve the disease and life prognosis, shows the great contribution of the medical factor in solving the problem of patient adherence to treatment.

2. According to the opinion of the majority of the patients who participated in the survey, the explanation of the causes and clinical appearance of the disease, treatment methods, consequences of the disease, and the effects of the drugs by the attending physician is of great importance in improving treatment adherence.

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