Quality of life of patients with atrial fibrillation

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ABSTRACT

Introduction: Atrial fibrillation (AF) is one of the most frequent arrhythmias. In Poland, there is a risk of developing AF in about 400,000 people. Atrial fibrillation occurs most frequently as a result of disorders of physiological automatism and afterdepolarization and triggered activity. The treatment strategy of AF is based on pharmacological treatment and procedures such as ablation or cardioversion. The quality of life as defined by the WHO is an individual perception of one's well-being. On the other hand, the assessment of the quality of life in illness is modified regarding health problems.

Purpose: The main goal of the study was to get to know the quality of life of people with atrial fibrillation.

Materials and methods: The research was carried out using a diagnostic survey, based on a survey among 100 patients diagnosed with AF. The place of the research was the Regional Specialist Hospital in Biała Podlaska, in the Emergency Department.

Results: Increased morbidity was observed among women and people over the age of 60. The majority of patients with AF declared the quality of life at the medium level. The respondents most often followed medical recommendations. The majority of respondents did not follow healthy lifestyle rules, because as many as 68% of respondents did not do any physical activity and a significant part of the respondents smoked cigarettes and had an inflated BMI.

Conclusion: AF affects the quality life by causing sadness, irritation and insomnia**.**

Keywords: Patient, quality of life, atrial fibrillation, treatment.

INTRODUCTION

Atrial fibrillation (AF) is a very serious disease that is asymptomatic in the initial course and diagnosed accidentally during routine examinations. Patients only feel dizziness, weakness, shortness of breath or palpitation, which are often underestimated, while arrhythmia may lead to a stroke or death [1-4]. Atrial fibrillation is the most common type of arrhythmias. The incidence of arrhythmia is estimated at 0.9% of the general population and 1.8-2.4% of the adult population. It correlates with age and affects people aged 50-59, 0.5%, aged 60-79, 3.8%, and at the age of 80-89 is 9% [5,6].

It is predicted that cases of atrial fibrillation will double by 2050, and thus we can call it the epidemic of the 21st century. In the last 10 years there has been a development of non-pharmacological methods of arrhythmia control and related symptoms. Techniques of ablation, usually by percutaneous catheters, are very effective in the treatment of atrial fibrillation. The development of invasive therapies and new drugs may improve prognosis in patients with atrial fibrillation [7].

The main goal of the study was to get to know the quality of life of people diagnosed with atrial fibrillation. The work consists of the theoretical part, which describes the patho-physiological and electrophysiological factors of arrhythmia, classification of atrial fibrillation, clinical presentation and diagnostic procedure and treatment of atrial fibrillation. The second part presents the assumptions and purpose of the study, research methods and techniques as well as organization and course of research. In addition, the work contains a discussion of the results of the authors' own research, discussion and conclusions.

Theoretical part

Atrial fibrillation (AF) is a very serious disease that is asymptomatic in the initial course and diagnosed accidentally during routine examinations. Patients only feel dizziness, weakness, shortness of breath or palpitation, which are often underestimated, while arrhythmia may lead to stroke or death [1.4].

Atrial fibrillation is the most common arrhythmia and the third most frequent arrhythmia (after premature supraventricular and ventricular excitations) of arrhythmia [7].

Epidemic studies indicate a significant variation in the frequency of its occurrence depending on age, health status of the patients and the method of assessment. The incidence of atrial fibrillation is estimated at the level of 0.4-1%, but it increases with age. After the age of 80, it is about 8%. In the first 20 years of life, AF is very rare [8].

In Poland, it is estimated that atrial fibrillation may affect about 400,000 people. The incidence increases with age and depends on comorbidities. Studies show that chronic atrial fibrillation affects 40-50% of patients and is the most common type of arrhythmia, while persistent and paroxysmal AF occur in 20-30%. The duration of arrhythmias is usually long, with frequent recurrences [8].

The results of the latest epidemiological studies have shown that atrial fibrillation increases the risk of bleeding during anticoagulation, stroke and death. Other important consequences of arrhythmia are heart failure, cognitive disorders and socio-economic consequences. It is estimated that all strokes in 20% occur in the course of AF, and in patients over 80 years of age the incidence increases to 25% [9,10].

Atrial fibrillation with asymptomatic course significantly impairs early diagnosis of arrhythmias. Almost 1/3 of patients do not feel its symptoms. Due to the widespread complications and such epidemiological data, more and more effective methods of treatment and prevention of atrial fibrillation are sought [9,10]. The causes of atrial fibrillation include [1]:

1. diseases causing pressure increase in the atria and pulmonary veins:
   a. hypertension (the most common factor),
   b. heart defects, especially mitral or tricuspid valve regurgitation, aortic semilunar valves,
   c. congenital heart defects (e.g., loss of intraventricular septum in adults),
   d. myocardial diseases (primary or secondary, leading to systolic and/or diastolic dysfunction, hypertrophic cardio-myopathy),
   e. pulmonary hypertension (chronic obstructive pulmonary disease, pulmonary embolism),
   f. endocardiac thrombus, tumors,
   g. metastases in the atria wall, primary tumors,
   h. recent operations of esophagus, heart, lungs,
   i. chronic kidney disease,
2. diseases leading to atrial ischaemia: coronary heart disease,
3. inflammatory or infiltrative diseases: pericarditis, sarcoidosis, amyloidosis, myocarditis,
4. atrial fibrosis related to age: toxic agents, stimulants, carbon monoxide, medications,
5. diseases of the endocrine system: pheochromocytoma, hyperthyroidism,
6. sleep apnoea syndrome
7. neurogenic causes: subarachnoid haemorrhage, extensive stroke, mental illness (depression),
8. Other: obesity, electrolyte disorders, general anesthesia.

Five types of atrial fibrillation are clinically distinguished based on symptoms and duration.

1. The first recognized episode of AF-detected for the first time, regardless of the duration and the presence and severity of symptoms associated with it.
2. Paroxysmal atrial fibrillation - resolves spontaneously, usually within 48 hours. The atrial fibrillation may last up to 7 days, after this period the possibility of spontaneous recovery of the sinus rhythm is low.
3. Permanent atrial fibrillation - we recognize when the arrhythmia episode lasts over 7 days or requires termination with pharmacological or electrical cardioversion.
4. Persistent, long-lasting atrial fibrillation -> 1 year
5. Permanent atrial fibrillation - we can recognize when arrhythmia is accepted by patients. The doctor and patient decide to maintain the arrhythmia [11,12].

Clinical picture and natural course

Symptoms of AF vary from mild to severe, such as hemodynamic disorders, which lead to loss of consciousness and death. They depend on the frequency of the ventricular rhythm and the degree of the damage to the left ventricle. The most common symptoms are [12-14]: palpitations, sweating, weakness and impaired exercise tolerance, fainting, dizziness.

The commonly used scale to assess the severity of atrial fibrillation is the EHRA classification, consisting of four stages: the first stage without clinical symptoms, the second - mild, in which there are no restrictions on life activity, the third - severe symptoms limiting daily activity, the fourth - preventing everyday activity. This classification may be helpful in making therapeutic decisions, and in particular when we want to offer invasive treatment methods to a patient [2,3,15].

About 25% of patients with arrhythmia have asymptomatic arrhythmias. Silent atrial fibrillation may appear for the first time only after complications of arrhythmia such as ischemic stroke or tachycardia mediated cardiomyopathy, it may also be detected by accident [12,14,16].

In about half of patients with AF symptoms, they significantly decrease or disappear after a year. Patients with atrial fibrillation are at higher risk for stroke (AF> 48 hours increase the risk of stroke). The $CHADS_2$ scale is used to assess individually the risk of stroke depending on risk factors, based on which anticoagulative treatment is determined [16].

AF starts with short episodes. They are often clinically indistinctive, thereupon they become longer and often resistant to attempts to stop them. Finally, they become permanent atrial fibrillations. Permanent arrhythmia should be expected especially in: approximately 40% of patients with hypertension, patients with ischemic heart disease, most patients with mitral stenosis. The spontaneous recovery of sinus rhythm in chronic atrial fibrillation is rare [12,14,16].

Diagnostic procedure

The ESC guidelines emphasize the need for active diagnostics. In the diagnosis of atrial fibrillation, apart from the interview and examination, an important role is played by electrocardiographic ECG. Resting electrocardiography is an examination necessary to make a diagnosis as well as to be able to provide a lot of information about its aetiology. ECG recording in atrial fibrillation is characterized by the lack of visible P waves, which are replaced by F wave and irregular RR intervals and irregular isoelectric line as well as variable cycle length between successive two waves of atrial activation (>300/min). QRS complexes have the correct shape with different voltage [17]. Normal heart rhythm may occur in patients with heart pacemaker or atrioventricular ablation. The rhythmic rhythm also occurs when the third degree atrioventricular block or ventricular tachycardia occurs [4,17].

Basic laboratory tests should be done in all patients with confirmed atrial fibrillation. Electrolyte abnormalities (hypokalaemia, hypomagnesaemia) are the most common reversible causes of AF. It is also important to determine urea and creatinine and to perform such tests as INR, morphology, transaminase. TSH level is advisable in patients with atrial fibrillation [5].

Thoracic imaging may reveal features of pulmonary congestion or enlarged heart which enforces the organic basis of the arrhythmia. Peribronchial, pulmonary interstitial changes may suggest a chronic respiratory disease, which predisposes to arrhythmia. The most important imaging study in patients with arrhythmias is echocardiography (ECHO). It is recommended that patients with AF should have this test performed at least once to detect if arrhythmia is based on organic heart disease [7,12,18].

People who have been diagnosed with AF for the first time undoubtedly require additional diagnostics. Carefully collected interview is the basis for optimal treatment. The main goal of additional tests is to identify patients at high risk of cardiovascular complications and to help in interim treatment [5].

Treatment of atrial fibrillation

Treatment of patients with atrial fibrillation requires an individual approach to the patient. In elderly patients, two strategies are used: ventricular rate control and sinus rhythm maintenance [17].

The European Society of Cardiology (ESC) recommends, above all, the maintenance of sinus

rhythm in young people who are not excluded from percutaneous ablation. Cardioversion, ablation as well as pharmacological treatment are effective in maintaining the sinus rhythm. In special situations, surgical procedures are also used. Prevention of complications consists in the control of the ventricular rate, thrombotic therapy and proper treatment of comorbidities [3,15,16].

The goal of the rhythm maintenance strategy is to maintain the correct sequence of ventricular and atrial contractions. This can be achieved by interrupting AF attacks with pharmacological methods or electric cardioversion [18].

Conducting cardioversion without anti-coagulant therapy is acceptable if the arrhythmia lasts for less than 48 hours, and in patients unstable for haemodynamics. If the seizure lasts longer than 48 hours, it is necessary to precede the attempt to restore the sinus rhythm with at least three weeks of anticoagulant treatment [3,19].

Ablation is becoming quite a popular method. The aim of ablation in the treatment of atrial fibrillation should be the isolation of pulmonary veins [3,16].

Surgical treatment of atrial compart-mentation is performed less frequently. It is achieved by performing a series of small incisions in the left and right atrium in order to isolate the pulmonary veins and break the re-entry circuits [2]. Chronic treatment of atrial fibrillation aims to optimize causative treatment, control of the ventricular rate, prevention of thromboembolic complications as well as restoration of sinus rhythm and its maintenance.

The choice of treatment strategy depends on the course of the disease. Not only pharmacological and invasive methods are important, but also lifestyle modification and treatment of accompanying or basic diseases. In the prevention of arrhythmia attacks, nonpharmacological activity is also important. Widely understood hygiene of life and proper nutrition. It is necessary to treat effectively comorbidities such as: arterial hypertension, cardiomyopathy, congenital and acquired abnormalities, coronary heart disease, myocarditis or sleep apnoea and systemic diseases with cardiac involvement [1,12].

Complications of atrial fibrillation

The main complication associated with atrial fibrillation is ischemic stroke and peripheral embolism. The above complications arise in the mechanism of blood stagnation in the cavities due to the lack of effectively strong contraction, and thus the tendency to form clots. The stroke in patients with AF is relatively more severe. The risk of stroke is similar in patients with all types of atrial fibrillation and occurs most often after the onset of

a long-term seizure or persistent fibrillation [3,12,19].

Quality of life

"Quality of life" - currently a very fashionable concept, already known from ancient Greece in Aristotle's philosophical notes. In the antiquity, quality of life was identified with the difference between the amount of pleasure, health-related well-being and satisfaction with the decision and total amount of all failures and sufferings occurring to the individual [8]. This issue has become a source of improvement in many areas of life, for example economics, mechanics, management or medicine. Research on the quality of life in medicine was initiated in the twentieth century (in the 80s) [8].

The quality of life in the field of medicine has been regulated by the World Health Organization (WHO). The definition by WHO is perceived as "... an individual view of individuals on aspects of life in the fields of culture and customs, a system of values and their role in a society and tasks and expectations consistent with the current environmental conditions" [8]. Evaluation of quality of life is done with the help of domains. In the field of medicine, the quality of life assessment is widely taken into account, depending on individual health assessed in a subjective way [8].

Purpose

The main objective of this work is to try to get to know the quality of life of patients with atrial fibrillation. In order to present the topic of the work, the following research problems were formulated:

- How does the patient with AF define the concept of quality of life?
- At what age and in which sex does AF appear most often?
- How does patients with AF assess their health and the quality of their lives?
- In what way the patient most often assesses the intensity of AF-related ailments?
- Has the disease caused limitations in the patient's professional and social life?
- Is there a need to take anti-arrhythmic and anticoagulant medications and are medical recommendations followed by the patients?
- What tests and treatments have been performed in a patient with AF to improve the quality of life and meet the patient's health expectations?
- What kind of lifestyle does the AF patient prefer?
- What is the impact of the disease on the emotional state in the assessment of the patient?

RESEARCH HYPOTHESES

- The withdrawal from life depends on the level of quality of life assessment.
- Resignation from work due to illness affects the assessment of the quality of life in AF disease.
- Age is affected by the quality of life of an AF patient
- The assessment of the quality of life of a patient with AF depends on cardioversion or ablation procedures performed in patients.
- The assessment of health affects the perceived quality of life with AF.
- Most patients with AF follow medical recommendations: pharmacotherapy and lifestyle changes.
- The preferred lifestyle of patients with AF is abnormal.
- Atrial fibrillation significantly affects the emotional state of patients.

MATERIALS AND METHODS

The research was carried out using a diagnostic survey, based on a survey among 100 patients diagnosed with AF. The place of the research was the Regional Specialist Hospital in Biała Podlaska, in the Emergency Department.

In order to verify the research hypotheses, statistical T tests were used, assuming the level of significance at the level of alpha = 0.05.

RESULTS

N = 100 people participated in the study, including 51% (n = 51) of women and 49% (n = 49) men. The group from the age perspective was varied. In the following ranges, the number of respondents was comparable. In the surveyed population, the largest group were respondents aged over 60, 27% (n = 27). The second group of respondents was aged between 30 and 40, 24% (n = 24). The respondents aged 50 to 60 were 19% (n = 19). Up to 30 years old were 16% (n = 16) and 14% (n = 14) was the least numerous group of patients, aged between 40 and 50 years old.

The respondents lived comparatively in cities, and in the country. As many as 55% (n = 55) of the respondents lived in the city. Another 45% of respondents (n= 45) lived in the rural areas. Among the respondents there were 28% (= 28) of patients with vocational education. 27% (n= 27) with higher education. Only 23% were patients with secondary education, while 22% (n= 22) were patients with primary education. The largest number of respondents were pensioners, which constitute 33% (n= 33). The white-collar workers were 25% (n =

25). Labourers accounted for 24% (n= 24). 9%(n = 9) were 2 groups, students and the unemployed.

The subjects were also asked about height and body weight on the basis of which BMI was calculated. Patients usually weighed between 60 and 80 kg, 38% (n = 38). The 34% group (n= 34) weighed 80-100kg. Subsequently, 21% (n = 21) of patients weighed between 40 and 60kg. There were also single body weights ranging from 120 to 140kg, which was 1% n = 1 and from 140 to 160kg, which was 1% n=1. The represented height among the respondents was between 170 and 180 cm, which is 36% (n = 36) and between 160 and 170cm, 33% (n = 33). The smallest examined group was the one with the height between 140 to 150cm, that is 5% (n = 5). The average weight was 77.5 kg. The smallest body mass among the respondents was 45kg and the largest body weight was 154kg. The body weight varied from the average one of +/- 18.80656 kg. The average height among the respondents was 170cm. The middle value is the same as the average. Most people were 172cm tall. There were n = 10 people. The shortest person measured 145 cm and the tallest one was 197 cm. The difference in the height from the average was +/- 10.96249cm. Body Mass Index (BMI) of the patients' population most often fluctuated in the ranges of 25.00-30.00-30% (n = 30). The range 20.00 - 25.00 included 28% (n = 28) of the respondents. It is worth mentioning the study group of 18% (n = 18) whose BMI ranged between 30.00 and 35.00, while 13% (n = 13) respondents ranged from 15.00 to 20.00 . The average BMI level of N = 100 was 26.84. The median value of BMI was 27.04164. The modal value calculated from BMI was multiple. The mode was 3. The lowest BMI result was 12.86854. The highest BMI result was 48,60497. The standard deviation of BMI was 6,328,452.

The patients' task was to assess their health on a 5-point scale. Among 34% (n = 34), the respondents most often chose 4, marked as good. The second most frequently selected health assessment grade is 3 (medium), the answer was 32% (n = 32). Grade 2 (bad) was chosen by n= 23 people, 23% 5% (n= 5). Only 6% (n= 6) assess their health at a very good level. Assessment of the health condition by 28% (n = 28) as bad or very bad is alarming. The average health assessment was 3.13. The median value is the average score of 3 (neither good nor bad). The most frequently chosen answer means an assessment of health at a good level. This answer was chosen by 34 patients. Up to the 3 most frequently chosen grades of the pain score in the range from 1 to 10, the respondents scored a severity of pain at 4,5,6. Patients with AF, in 26% (n= 26), assessed the severity of their ailments at level 5. Another 23% (n = 23) indicated level 4. The next 13% (n= 13) assessed the intensity

of symptoms at level 6. The least respondents, 4% (n = 4), chose pain severity at level 9.

The subjects were evaluated for the severity of ailments related to atrial fibrillation in a 10-degree scale. The respondents assessed the severity of pain at levels from 2 to 9. The average assessment of the severity of AF-related symptoms was 5. The mode was also 5. The modal value was 26. The standard deviation of the assessment of ailments differed from the mean +/- 1.814. When asked about the period of the first occurrence of atrial fibrillation, patients most often responded that the symptoms of AF occurred within one year or less. Such a response was chosen by 35% of respondents (n= 35). 27% of patients (n = 27) have suffered from AF for 2 to 5 years. 23% have been ill (n= 23) for 1 to 2 years. 15% have been ill for 5 years. Patients were hospitalized due to AF. Answering the question, as many as 63% (n= 63) were hospitalized 2 to 5 times. 20% (n=20) respondents were hospitalized from 5 to 10 times. 17% of patients were admitted to hospital more than ten times.

The next question concerned performing social roles during the disease. As much as 71% (n = 71) did not have to quit work due to the disease. Another 15% (n= 15) of respondents were forced to resign from work. The next 13% (n= 13) continued to work, but with some restrictions. Only 1% (n = 1) were forced to change their work.56% (n = 56) of the study population declare the occurrence of additional diseases besides AF. 56%, as above, claims that they do not suffer from other diseases. 12% (n= 12) declare hypertension and diabetes. These 2 disease entities were most often chosen among patients. Patients most often declared the occurrence of one, two or three diseases. In 7% (n = 7) occurred hypertension associated with heart failure and COPD. In another (n=7) 7%, arterial hypertension was accompanied by renal failure. Hypertension occurred in patients with knee degeneration (n=3) 3%. Hypertension also occurred in patients with diabetes and varicose veins (n= 3), 3%. As studies show (n = 5) 5% of patients with AF suffered from diabetes and post-stroke conditions. In 2% of patients colon cancer, in addition to diabetes and post-stroke conditions, occurred. Among 40% of patients with AF (n= 40), it was not known whether AF was present in the family. 26% (n = 26) of patients confirmed the occurrence of the disease in the family history. Another 34% (n=34) deny the occurrence of AF in the family.

Patients, suffering from AF, asked about taking anti-arrhythmic medications in 74% (n = 74) confirm the use of this type of medicines. Only 26% (n = 26), despite the disease, do not take anti-arrhythmic medications. The most commonly prescribed anti-arrhythmic medications included: Polfenone-24% (n=24), Beto ZK 22% (n=22), Cordarone-16% (n=16), Rytonorm-9% (n=9),

Nebilet - 3% (n= 3). As to anti-arrhythmic medications, the majority of respondents also take anticoagulants. Anticoagulants are taken by 63% (n = 63). Only 37% (n = 37) do not take these kinds of medicines. The majority 63% (n = 63) of surveyed patients follow the medical prescriptions for pharmacotherapy. As many as 35% (n = 35) of the respondents occasionally miss the dose of medication. Only 2% think that they can take medicine as they want.

Patients with AF were also asked to answer the question about their surgery: ablation or cardioversion. Among the surveyed 60% (n= 60) did not undergo the surgery. In 40% (n= 40) cardioversion and ablation procedures were performed. In the whole group, 87% (n= 87) confirm the performance of diagnostic control tests. Only in 13% (n=13) of patients no control diagnostic tests are performed.

Respondents, having the possibility of multiple choice, asked about expectations of treatment, most often chose the ABC option. The respondents, after giving up the treatment, expected: a quick return to everyday life, the lack of tiredness and feelings of palpitations. The above-mentioned response was chosen by 30% (n = 30) of patients. 16% of patients expected a quick return to everyday life (n = 16). Another 16% of respondents expected no fatigue and no feeling of palpitations. The next 7% of respondents, after the treatment of AF, expected improvement of their well-being, while 6% (n = 6) improvement of the heart rate. Another 6% expected, after treatment, the lack of fatigue. Only 3% (n = 3) has many requirements as to the treatment; they expect a quick return to everyday life, the lack of heart palpitations and fatigue, and the improvement of their well-being and heart rate, and they want to discontinue taking medications. 2% of respondents expect, after the treatment, to stop taking medications.

Next, the respondents were asked about their lifestyle. The first question in this category was about smoking cigarettes. 31% group (n= 31) have never smoked cigarettes. Another 28% (n = 28) smokes occasionally. A group of 26% (n = 26) subjects stopped smoking. Only 15% (n=15) smoke cigarettes regularly. Another question in the field of lifestyle related to the consumption of alcohol. 34% (n=34) admits drinking alcohol. 66% (n= 66) of the respondents do not drink alcohol. Patients asked about the amount of meals, most often declare eating 4 to 5 meals a day, 37% (n=37). As many as 32 patients eat three meals a day. Another 17%, eat more than 6 meals. The next 11% of respondents n = 11, eat from 1 to 2 meals a day. Only 3% (n=3) do not have a fixed number of meals. Respondents were asked about the amount of fluids taken during the day, most often they chose about 1.5 litres a day (37%, n= 37). 33% (n = 33) drink more than 2 litres of liquids. 30% (n=30) drink less than 1 litre of

liquids. The subjects were asked about their physical activity. Only 28% (n= 28) declare physical activity. The majority, 68% (n= 68), do not undertake any physical activity. The next area of the study was dealing with stressful situations. Only 8% declare that no stressful situations occur. A vast majority of 92% (n=92) say that they are exposed to stressful situations. 17% respondents asked about the understanding of the concept of quality of life and having the possibility of multiple choice, in the majority declared that the quality of life means all these areas. Subsequently, 14% (n=14) subjects chose the C-E-G and D-F-G scheme. Another 12%(n = 12), consider health as the only quality of life. The next 11% (n=11) chose the A-F-G scheme.

According to patients, in terms of quality, health played an important role. This answer was indicated by the respondents many times individually and together with other factors. When questioned about the level of satisfaction with the quality of their lives, respondents were most satisfied at an average level of 30, 30%. Another 23% (n=23) were dissatisfied with the quality of their lives in a moderate degree. 16% (n = 16) of respondents were the least satisfied with the quality of their lives. Another 13% (n=13) could not answer whether they were satisfied with the quality of their lives. 8% of respondents are very satisfied with the quality of their lives to a large extent and another 8% (n=8) are not satisfied. Respondents asked about the quality of life in the aspect of family and social life, in the opinion of the majority 60%, responded that AF did not cause limitations in family and social relationships. The next 32% (n = 32) decided that the disease caused limitations in the discussed relations. Only 6% (n = 6) patients find it difficult to determine if the illness caused withdrawal from family life and social relationships. When asking respondents about reasons for decreasing of the quality of life caused by withdrawal from family or social life, they most often reported that these were frequent stays in hospital 11% (n= 11). The next reason for decreasing the quality of life was the inability to drive a car for safety reasons, 9%, (n= 9). 7% (n = 7) of patients claimed that the reason for the decreasing quality of life was the inability to develop their passions. Only 5% of respondents considered the lack of energy to participate in meetings and fear of work as the problem deteriorating the quality of life. The task of the respondents was to assess the impact of the disease on the individual emotional state. 12% of respondents felt deeper sadness, insomnia and tiredness as a result of the disease. Another 15% of the examined patients believe that the disease causes sadness, irritability and insomnia. Only 10% of the respondents think that they are more miserable because of the illness, but they have learned to accept it, but they are afraid of the future

in terms of the possibility of financial security. In 11% (n=11) of patients, the disease causes irritation.

The respondents, when assessing their future, most often 32% (n=32) chose grade 3, which meant optimistic future from time to time. As many as 24% (n=24) of respondents very rarely thought positively about the future. Another 23% (n= 23) estimated that they often think positively about the future. 15% (n=15) very rarely think about the future positively, whereas 6% (n= 6) think positively about the future. 36% (n=36) believe that they feel worthless because of their health condition. 32% (n= 32) respondents do not feel worthless because of their health condition. The same number of respondents (n= 32) has a problem with the assessment whether they feel worthless due to the disease. 44% of respondents (n= 44) have a problem with determining whether people around them feel embarrassed about their illness. The next 35% (n= 35) think that people around them do not have a problem/do not feel embarrassed in their company. It is worrisome that 15% (n=15) of patients perceive themselves as a problem and think that their company is problematic and causes discomfort to others. 39% of respondents (n=39) have problems adjusting to the limitations imposed by the disease . Only 32% do not see the problem and there is no problem with adapting to the current state of health and limitations caused by AF (n= 32). 29% have a problem with determining whether they have a problem with adjusting to the limitations caused by the disease or not.

After analysing the questions contained in the survey, the authors decided to verify the research hypotheses. With the help of the T-test for dependent samples, p= 0.000 and alpha = 0.05 there is a dependence of p <alpha, which gives grounds to reject the zero hypothesis that the withdrawal from active life depends on the quality of life in the disease .

Another verified hypothesis is the existence of a relationship between patients subjected to medical treatments due to AF and the assessment of their quality of life. Using the T-test for dependent samples p= 0.00 and alpha equal to 0.05, the null hypothesis should be rejected, which states that there is a relationship between the assessment of the quality of life of the patient with AF and his or her cardioversion or ablation.

The following research problem concerned the resignation from work due to illness and its impact on the assessment of quality of life. At alpha values = 0.05 and p = 0.836034, it was decided that there was no reason to reject the null hypothesis. The null hypothesis was: resignation from work due to illness affects the assessment of the quality of life in AF disease.

Another research problem was: whether the assessment of quality of life with AF depends

on age. Using the T test for the dependent tests at p = 0.4152 and the adopted alpha-0.05, it was decided that there was no reason to reject the null hypothesis. Null hypothesis: the assessment of the quality of life depends on age.

DISCUSSION

In the article by Cieślik, where the patients with diagnosed AF were subjected to the examination, there was an upward trend in the occurrence of a disease over the age of 60. The average age of the study subjects in the studies of Cieślik B., amounted to 57. Differentiating the incidence of AF due to gender, the increased risk occurs among men [8]. In the studies by Chudzik M., cited by Cieślik B., it was noted that the mean age of patients with AF was 72 and due to sex more cases occurred in men [8]. The factors of significant importance were the circumstances of ventricular fibrillation seizures. This factor had a significant impact on the assessment of quality of life depending on the state of health.

Sułkowska-Olejarz's et al. research did not reveal differences in the disease depending on gender. The average age was 61. In the patients hospitalized at night, the majority were women, where the average body weight was 79.6 kg. The group of men predominated in patients admitted to hospital during the day, where the average body weight was 83.9 and standard deviation is 20.9 [20]. The patients from the analysis by Maryniak, quoted by Cieślik B., were aged 53.4. The study group consisted of 74 men. The duration of the disease was determined on average to 8.3 years [8]. In the analyses, no significant correlation was found regarding the duration of the disease and the coexistence of other disease entities and HRQL assessments [8].

Among patients who underwent ablation, the quality of life did not differ in obese and slim patients, however, the QOL index in people with obesity was low. The studies have shown the effectiveness of invasive procedures against AF in the obese group [21]. Further studies of Montana S quoted by Cieślik showed an improvement in the quality of life depending on the health condition, after control tests and treatment due to a much smaller number of fibrillation recurrences and hospitalization as their consequences [8]. Chudzik et al. quoted by Cieślik B., showed in their research that the pain severity of AF is lower after ablation [8]. In studies by Szyguła-Jurkiewicz and co-authors, the quality of life with AF was compared to the quality of life of patients after myocardial infarction. Patients, divided into 2 groups due to the recurrence of the disease, assessed a higher quality of life as a period where relapses did not occur within 3 months. The quality of life was significantly worse in patients whose disease recurred for six months. The assessment was also influenced by the used antiplatelet therapy and its side effects, i.e. haemorrhage as a consequence [21]. Research by Bubien and co-authors, which Szguła-Jurkiewicz and co-authors use, show high effectiveness of interventional treatment. The analysis of the quality of life after "atrioventricular ablation and subsequent implantation of a pacemaker, has proven over several years an improvement and increase of quality parameters. The only indicator that did not improve was the self-assessment of the patient's well-being [21]. The above-mentioned treatment also had an effect on reducing the severity of pain, where the greatest increase occurred in the first year after the treatment initiation[21]. 70% of patients reported restoration of all symptoms, and 90% reported a reduced severity of discomfort and pain and improvement of health self-assessment" [21].

In the analyses of Zubilewicz et al. [22], they show how important is early diagnosis of the patient in terms of co-morbidities. Within the framework of the ChADS scale, it is important to diagnose diabetes and hypertension early in order to introduce adequate effective antiplatelet therapy. In Sułkowska-Olejarz's research, as in the authors' own studies, a significant number of cases of hypertension was observed. In addition to hypertension, sleep disorders, sleep apnoea and diabetes have also occurred in the studies [20].

Dąbrowska's research, cited by Cieślik, noted a significant reduction in the quality of emotional health, especially in women [8]. Research has also highlighted the decline in the quality of physical well-being [8]. Social well-being in the quality sphere was lowered due to restrictions on the profession or everyday work [8]. Kochańska and co-authors, quoting Sears et al., showed significant intensity of stress and anxiety before surgery due to low awareness regarding treatment. After the surgery, the level of anxiety disorders and the diagnosis of depression increased in 23-33% of patients [23]. Disorders are caused by fear of complications after surgery or fear of the return to functioning in society and family [23].

CONCLUSIONS

After verifying the hypotheses, the following conclusions were made:
1. The respondents most often defined the concept of "quality of life" as the level of physical and mental activity, participation in social and family life as well as health and creativity.
2. The highest incidence of AF in the presented patient population occurs in women and above the age of 60.
3. In the majority of patients the disease did not result in resignation from work.

4. The need for arithmetic medications occurs in 72 patients. The need for anticoagulant therapy occurs in 63 patients.
5. According to the majority of patients follow the doctor's instructions.
6. The respondents expect fast recovery to everyday life, lack of fatigue and palpitations.
7. The disease affects the emotional state, causes sadness, irritation and insomnia.

Conflicts of Interest

The authors declare that there are no conflicts of interests regarding the publication of this study.

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