ORIGINAL ARTICLE

KNOWLEDGE OF CARDIOLOGISTS RELATED TO PROPHYLAXIS OF RHEUMATIC FEVER IN SALVADOR-BA

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Abstract

Objective: Describe and analyze the knowledge of cardiologists on the prophylaxis of Rheumatic Fever (RF). Method: Application of questionnaire to cardiologists and cardiology residents March/2012 to December/2014. Results: The questionnaire was answered by 52 cardiologists 37 (71.8 %) specialists and 15 (28.9 %) cardiology residents. The average time for the formation of the group was 19.28 (±10.16) years, 39 (75 %) work in outpatient SUS, 34 (65%) in private practice. Of these 26 (50%) reported not having followed any cases of acute RF in the last year and 9 (17.3%) said they had not accompanied chronic RF cases last year. Among the 35 respondents (67.3%) report that they attended to most cases in the past and 37 (71.2 %) believe that there has been a decline in the disease. Although the majority, 47 (90.4 %) have knowledge about the last guideline of treatment and diagnosis of RF, the accuracy rate of all therapeutic options used in primary prophylaxis of these patients was 5 (9.6%) and secondary 7 (13.4 %), however 49 (94.2 %) made reference to benzathine penicillin as an option. Conclusions: The current study identified that, although RF is still an important clinical condition in our environment, the physicians interviewed did not show adequate knowledge on the subject, which could be related to poor patient adherence to RF prophylaxis. Greater attention should be devoted to continuing education on RF, which is a disease often neglected.

Keywords: Rheumatic fever prophylaxis; Cardiologists knowledge.

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INTRODUCTION

Rheumatic fever is characterized by the development of a disease caused by a cross immune reaction to tonsillitis. The delayed response is caused by beta-hemolytic streptococcus group "A" in genetically predisposed populations.[1] RF is often associated with poverty, low education level, and poor life conditions.[2] Thus, despite the recognized reduced incidences of RF in recent decades in developed countries, it remains to serve as a major public health problem, especially in developing countries like Brazil. A comprehensive review of the epidemiology of RF and rheumatic heart disease (RHD) published in 2005 estimated that there are at least 15 million and 600 million prevalent cases of RHD worldwide, with 280 million new cases per year and 230 million deaths for all years.[3]

This is a disease that affects particularly children and young adults taking maximum prevalence between ages 5-18 years,[4] occurring in 0.3 % to 3% of patients with pharyngitis infection by group A streptococci of Lancefield, inducing an autoimmune response by the body attempt to overcome the infection.[5]

The Brazilian Guideline for the Diagnosis, Management and Prevention of Rheumatic Fever published in 2009 by the Brazilian Society of Cardiology,[4] was written based on a broad review of national and international literature about that subject and was adapted by a consensus of experts to our reality.

Despite the recognized importance of the problem and the existence of evidence-based strategies for prevention and treatment of streptococcal pharyngits, the health actions that were developed proved to be insufficient for adequate control of RF.[4,6,7]

Few studies have evaluated the possible causes of non- adherence to the prophylaxis of rheumatic fever. Patient's reluctance to use the penicillin due to pain from injections, difficulty in obtaining medication and the lack of understanding of the importance of treatment are described as causes of non-adherence.[8]

The current study aims to search for possible responses to explain patient's non-adherence to the prophylaxis of rheumatic fever in our environment, related to the knowledge of cardiology specialists or in training on the subject. Considering that the cardiologist is a professional who is more likely to treat and guide patients with RHD.

METHODS

In this cross-sectional study, self-explanatory questionnaires were applied to cardiologists or cardiology residents. All the procedures included in this research project were approved by the Ethics and Research Committee of Bahiana School of Medicine and Public Health under protocol number 208/2011. Each volunteer read and signed the and Informed Consent Term and all procedures followed to determine the Decree-Law 196/96 of the CNS for human research.

The questionnaires, that contained questions related to the professional profile, his own impression about RHD and how it is prevented, were applied during a Cardiology Congress in Bahia in April 2012; 2013, in a scientific meeting of Society of Cardiology in October 2012 and in cardiology hospital services.

Data analysis was performed using the Statistical Program for Social Science Packcage (SPSS) version 20.0. Relative and absolute frequencies were calculated. The data were analyzed using descriptive and Chi square statistics. P values <0.05 were considered statistically significant.

RESULTS

Fifty-two physicians answered to the questionnaire, of which 72.8% were cardiologists, 17.2% were cardiology residents, 51.9% were male and 26.9% were between 31 to 40 years old. The characteristics of the participating doctors are described in Table 1.

Table 1. Characteristics according to specialization, gender, age, education after graduation and places

Characteristics	N	%
Physicians	52	
Cardiologists	37	71.1
Residents	15	28.9
Male	36	51.9
Age		
20-30 years	8	15.4
31-40 years	14	26.9
41-50 years	11	21.6
51-60 years	18	35
61-70 years	1	1.9
Training after graduation		
Residency/internship	43	82.7
Masters's degree	13	25
Doctorate	10	19.2
None	3	5.8
Total	**52**	**100**

Regarding work placement, 75% work in outpatient clinics in "SUS" (Public Health System in Brazil), 65% in private practice, 50% in private hospitals and 11.5% and 7.7% respectively in private and public emergency. (Table 2).

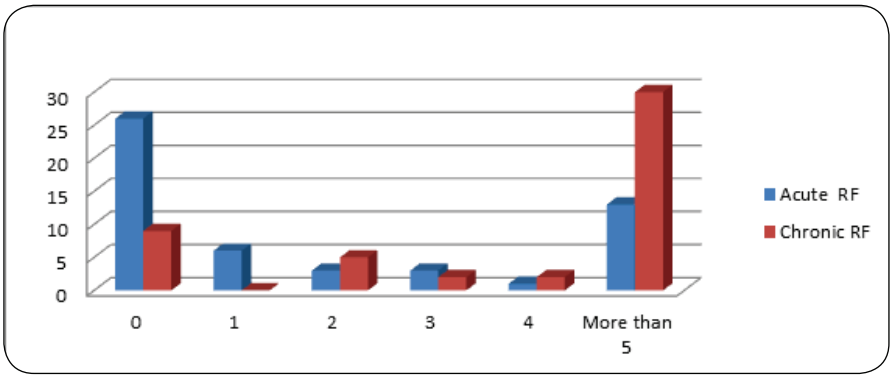
Table 2. Characteristics regarding work placement *

Work placement	N	%
Outpatient SUS	39/52	75
Private Practice	34/52	65
Private Hospital	26/52	50
Public Emergencies	6/52	11.5
Private Emergencies	4/52	7.5
Total		

* Some of the doctors work in more than one unit

The approximated number of patients seen by each doctor with acute RF or chronic RF in the last year is demonstrated in Figure 1.

Figure 1. Number of patients seen by each doctor with acute RF or chronic RF in the last year



Of all physicians interviewed, 35 (67.3%) answered that they met patients with this clinical condition and 37 (71.2%) believe that rheumatic fever incidence is declining. Forty seven (90.4%) respondents informed to know about the Brazilian Guidelines for the Diagnosis, treatment and prevention of rheumatic fever.

Of the primary prophylaxis questions, 20 (38.5%) answered correctly just one of the 5 options, 13 (25%) answered 2, 6 (11.5%) answered 3, 8 (15.4%) answered 4 and 5 (9.6%) answered the 5 options (Table 3). On the other hand, 49 (94.2%) of the answers included the benzylbenzathine penicillin.

Table 3. Correct answers about primary prophylaxis of rheumatic fever

N OF CORRECT QUESTIONS	N OF CARDIOLOGISTS	%
0 or none marked	0	0
1	20	38.4
2	13	25
3	6	11.5
4	8	15,3
5	5	9.6
Total	**52**	**100**

Regarding secondary prophylaxis 11 (21.2%) answered correctly just one of the questions, 22 (42.3%) answered 2, 11 (21.2%) answered 3, 7 (13,5%) answered the 4 options (Table 4).

Table 4. Correct answers about secondary prophylaxis of rheumatic fever

N OF CORRECT QUESTIONS	N OF CARDIOLOGISTS	%
0 or none marked	1	1.9
1	11	21.1
2	22	42.3
3	11	21.1
4	7	13.4
Total	**52**	**100**

Considering alternative therapies for prophylaxis in case of penicillin allergy 4 (7.7) didn't know any answer, 26 (50%) answered one correctly, 6 (11.5%) answered 2, 13(25) answered 3 and 3 (5.8%) answered 4. Sixteen respondents (30.8%) answered the true rate of anaphylaxis to penicillin.

About the maintenance time for prophylaxis in each situation, 8 (15.4%) did not know or missed all alternatives, 11 (21.2) answered one question correctly, 20 (38.5%) answered 2, 10 (19.2%) answered 3, and 3 (5.8%) answered 4 (Table 5).

Table 5. Correct answers about maintenance time of prophylaxis

N OF CORRECT QUESTIONS	N OF CARDIOLOGISTS	%
O ou none marked	8	15.4
1	11	21.2
2	20	38.5
3	10	19.2
4	3	5.8
Total	**52**	**100**

Among the physicians graduated up to 10 years, 4 (10.8%) said they believed that the RF is declining and 33 (89.2%) among those above 10 years (p <0.0001). Of the physicians with more than 10 years since graduation, 31 (83.8%) reported that they had accompanied more cases in the past.

There were no difference in percentage of correct answers between the doctors with less than 10 years since graduation and those with more than 10 years.

DISCUSSION

The current study suggests that, in the opinion of cardiologists, RF is a disease in decline, which was declared by 31 (83.8%) of physicians trained for more than 10 years. This perception contrasts with the fact that surgical and hemodynamic procedures for the treatment of patients with chronic valve disease are widely used and represent considerable costs for Brazil Public Health System. It was also observed that high percentage of professionals inform not having followed any patients with RF in the last year, and they used to see more patients in the past, suggesting that it may be occurring changes in epidemiology or it could be occurring atypical manifestations of the disease, different from those advocated by classic Jones criteria.

The lower number of patients with the acute form of the disease seen by the cardiologists in comparison to the chronic form could be explained by the fact that these professionals usually treat patients with valve complications of the rheumatic disease. One should also consider that the acute form of RF, it is often of short duration and that, by compromising population of low income and less access to health services, and may be under diagnosed.

In the current study, when asked about the antibiotics used in primary and secondary prevention, as well as duration of RF prophylaxis, few doctors answered all questions correctly. This lack of knowledge can contribute to difficult the control of the disease. Early recognition and treatment of streptococcal infections may prevent the onset of new cases of RF. Some countries like Costa Rica managed to reduce the prevalence of RF through training of their healthcare teams for the diagnosis of bacterial pharyngitis and benzathine penicillin for treatment.[9]

In conclusion, although RF is still an important clinical condition in our environment, the physicians interviewed did not show adequate knowledge on the subject, which could be related to poor patient adherence to RF prophylaxis. Greater attention should be devoted to continuing education on RF, which is a disease often neglected.

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