

syndrome – Nursing and medical staff information about athlete's heart**comparative study****By****Professor PhD. Mahfoudh Falif Hasan****Firas Hadi khalaf****Hussein Ali Hasan****Mahfoodh.Hassan@uobasrah.edu.iq**¹

Background: The physiological phenomena associated with aerobic and anaerobic exercise lead to structural and functional changes in the heart muscle, such as changes in the thickness of the heart walls or the size of its chambers. Upon examination, a state of cardiac hypertrophy is observed in these athletes. Sports heart syndrome is considered one of the most important physiological phenomena resulting from the physiological adaptation of the heart muscle to long-term exercise.

The use of cardiac imaging techniques, particularly electrocardiography (ECG) and echocardiography, aims to achieve accurate diagnostic results for sports heart conditions and compare these results with those observed in actual cardiac cases, thereby reducing the risk of disease.

Educating medical and nursing staff about the symptoms and physiological manifestations of the syndrome, and differentiating it from other medical conditions, is cornerstones in protecting the lives of athletes and participants in their training programs. This research also highlights the importance of collaboration among

various healthcare providers in the field of wellness to assess conditions associated with high-intensity physical activity

معلومات الكوادر التمريضية والطبية حول متلازمة قلب الرياضي - دراسة مقارنة

الأستاذ الدكتور محفوظ فالح حسن

فراس هادي خلف

حسين علي حسن

Mahfoodh.Hassan@uobasrah.edu.iq

الملخص

تؤدي الظواهر الفسيولوجية المصاحبة لممارسة التمارين الهوائية واللاهوائية إلى حدوث تغيرات بنيوية ووظيفية في عضلة القلب، مثل التغير في سُمك جدران القلب أو حجم حجراته. وعند فحص الرياضيين، تُلاحظ حالة من تضخم عضلة القلب تُعد استجابة تكيفية طبيعية للنشاط البدني المستمر. وتُعد متلازمة قلب الرياضي من أهم الظواهر الفسيولوجية الناتجة عن التكيف الفسيولوجي لعضلة القلب مع ممارسة التمارين الرياضية لفترات طويلة. ويهدف استخدام تقنيات تصوير القلب، ولا سيما تخطيط كهربائية القلب (ECG) وتخطيط صدى القلب (Echocardiography)، إلى الوصول إلى نتائج تشخيصية دقيقة لحالات قلب الرياضي، ومقارنة هذه النتائج بتلك التي تُشاهد في أمراض القلب الحقيقية، بما يسهم في تقليل احتمالية الخطأ في التشخيص وخفض مخاطر الإصابة بالمضاعفات المرضية.

ويُعد تثقيف الكوادر الطبية والتمريضية حول أعراض هذه المتلازمة ومظاهرها الفسيولوجية، والقدرة على التمييز بينها وبين الحالات المرضية الأخرى، من الركائز الأساسية لحماية حياة الرياضيين والمشاركين في البرامج التدريبية. كما يسلط هذا البحث الضوء على أهمية التعاون بين مختلف مقدمي الرعاية الصحية في مجال الصحة والعافية لتقييم الحالات المرتبطة بممارسة النشاط البدني عالي الشدة.

Study objective: To assess the level of knowledge possessed by medical and nursing staff regarding sports heart syndrome.

Methodology: This item discusses the study's methodology, which includes A descriptive and analytical study as well **the sample** consisted of a group of medical and nursing staff..

A questionnaire included a series of questions about medical staff's knowledge of athletic heart syndrome, the study data were analyzed using appropriate **statistical methods** to interpret participants' responses and draw conclusions, **the results** showed a variation in the medical staff knowledge of the sports heart syndrome where the data showed that doctors were more knowledgeable than nursing cadres about the symptoms of syndrome and its diagnosis

Conclusions: the results of the evaluation of 0doctor's knowledge about athletic heart syndrome that the majority of the answers were not sure–the percentage of medical staff answers to the questions was (True 23%) (Undecided 13%) (Fail 0%), Staff nursing has higher level of knowledge compared to Basic sciences staff.

The study recommends increasing scientific awareness about sports heart syndrome among medical professionals and the community, emphasizing that it is not a disease specific to athletes.

1–Introduction

The phenomenon of athletic cardiac adaptation is an important physiological phenomenon, and distinguishing between adaptive and non–adaptive remodeling is a key challenge in accurately assessing individual risks in athletes. typically, an

athlete's heart undergoes cardiac hypertrophy, increased left ventricular mass, and modest aortic root enlargement to accommodate heightened physiological demands. Adaptive forms and functions vary considerably among athletes and are influenced by the type and intensity of athletic training. Therefore, medical and nursing staff must be aware of this physiological phenomenon, given their role in educating the public.^{1,2}.

The anatomical and physiological changes in the athlete's heart are of interest to medical professionals and those concerned with the health of athletes – organized or chronic athletic training leads to a complex remodeling of the anatomy and physiology of the heart to accommodate a state of enhanced cardiovascular performance.

2– Significant : The role of medical and nursing staff is fundamental to the public health system. Since exercise is a key factor in disease prevention and maintaining health, it is crucial for healthcare professionals to understand the physiological and anatomical changes that occur in athletes, particularly concerning the heart muscle, the most vital muscle in the human body, and the accompanying physiological adaptations resulting from athletic training.

3–Problem : What is the level of information of the teaching staff in the College of Nursing and Medicine about athlete heart syndrome, and what is the relationship of their information to demographic variables?

4– Objectives:

1– To identify the level of knowledge of the teaching staff in the College of Nursing and the College of Medicine regarding athletic heart syndrome.

2–To identify the relationship between information about athlete heart syndrome and demographic variables.

5– **Design of the study:** the comparative method, It relies on comparing two or more phenomena to clarify similarities and differences and explain the causes

6–**Study Sample:** the sample consisted of 33 university professors from the Colleges of Medicine and Nursing who practice medical consulting in Basra Governorate. The sample included male and female healthcare professionals from various age groups and educational levels.

7– **the questionnaire** To achieve the objectives of the study, the researcher use a questionnaire consists of two parts (Appendix 1) including .

Part one; socio–demographic data such as Scientific title, academic Certificate, sex and age.

Part two; the second part consisted of 20 varied questions with true/false and uncertainty probabilities to assess the knowledge and information of the medical and nursing staff in the College of Medicine and the College of Nursing regarding sports heart syndrome.

8–**Rating and scoring of thef questionnaire:** we use three (3) points Likert Scale which ranged from (0) up to (2), as shown in the next table.

Table 8.1 : three (3) points Likert Scale			
Evaluation			
Likert	Interval	Difference	Evaluation

Scale			
0	0 – 0.66	0.66	Fail
1	0.67 – 1.33	0.66	Undecided
2	1.34 – 2	0.66	True

9-Statistical Data Analysis: the data were analyzed using the Statistical Package for Social Sciences (SPSS), version 26. the analysis included the arithmetic mean, standard deviation, percentage, independent samples T-test and One way ANOVA test.

10-Results of the Study:

10-1 Distribution of the Variables Related Demographic Characteristics N= 36

Table 10.1 : descriptive statistics of Demographic Variables			
Demographic Variables	Variables Classes	F	Percent
Sex	Male	17	47 %
	Female	19	53 %
	Total	36	100 %
Age	25 – 45	22	61 %
	45 – 65	14	39 %
	Total	36	100 %
College	Medicine	13	36 %
	Nursing	23	64 %
	Total	36	100 %
Specialization	Medicine	14	40 %
	Nursing	10	27%
	Sciences	12	33 %

	Total	36	100 %
Certificate	Doctorate	17	47 %
	Master	19	53 %
	Total	36	100 %
Scientific title	Professor	10	28 %
	Asst. Prof.	26	72 %
	Total	36	100 %
Hobby	Sport	9	25 %
	Reading	24	67 %
	Shopping	3	8 %
	Total	36	100 %
Marital status	Single	10	28 %
	Married	26	72 %
	Total	36	100 %
Service	1 – 15	21	58 %
	15 – 30	15	42 %
	Total	36	100 %

Table (10.1) shows that the highest age group was 25–45 years, representing 61%, while medical specialties were the most prevalent among the sample at 40%. Those holding a master's degree were also the most numerous at 53%, and the highest percentage of teaching experience was 1–15 years, representing 58% .

10–2 Results the Evaluation the knowledge of the Athletic heart syndrome, N=

36

Table 10.2: Mean score, frequency and percent to all staff

Evaluation; all staff regarding athletic heart syndrome			
Evaluation	Mean score	Frequency	Percent
Fail	0 – 0.66	0	0 %
Undecided	0.67 – 1.33	13	36 %
True	1.34 – 2	23	64 %
Total		36	100 %

Table (10.2) shows the assessment of knowledge of athletic heart syndrome, where the majority of teaching and medical staff assessed it correctly (64%), while those who assessed it unsure constituted (36%). No teaching staff member received an incorrect assessment, resulting in a percentage of (0%0).



Figure 10.2 : Evaluation; all staff regarding athletic heart syndrome

10 – 3 The effect of academic degree, specialization, and work location factors on information about athlete heart syndrome and some variables

10. 3 The effect of academic degree, specialty, and work location factors on information about athlete heart syndrome							
Statistics of information mean score						Significant	
Factors	Classes	N	Mean score	SD	Asst.	P – value	Sig.
Scientific title	Professor	10	1.49	0.224	True	0.34	Ns
	Asst. Prof.	26	1.37	0.281	True		
Certificate	Doctorate	17	1.43	0.261	True	0.55	Ns
	Master	19	1.37	0.281	True		
Specialization	Medicine	14	1.49	0.210	True	0.08	Ns
	Nursing	10	1.44	0.233	True		
	Sciences	12	1.26	0.318	Unsur e		
Age	25 – 45	22	1.32	0.253	Unsur e	0.02	S
	45 – 65	14	1.53	0.251	True		
College	Medicine	13	1.48	0.212	True	0.21	Ns
	Nursing	23	1.36	0.289	True		
Hobby	Sport	9	1.46	0.201	True	0.47	Ns
	Reading	24	1.36	0.286	True		
	Shopping	3	1.53	0.325	True		
Service	1 – 15 year	21	1.30	0.280	Unsur e	0.01	S
	15 – 30 year	15	1.53	0.192	True		
Sex	Male	17	1.49	0.176	True	0.05	S
	Female	19	1.32	0.314	Unsur e		

Marital status	Single	10	1.37	0.308	True	0.64	Ns
	Married	26	1.41	0.258	True		

S is Significant = p – value < = 0.05 otherwise non – significant (ns)

Table 10.3 compares the level of knowledge and awareness among faculty members regarding **athlete** heart syndrome. It shows that faculty members aged 45–65 have a significantly higher level of knowledge than younger faculty members. the same table also indicates that faculty members with 15–30 years of academic experience have significantly better knowledge than those with less experience. Furthermore, **male** faculty members significantly outperformed **female** faculty members in their knowledge of **athlete** heart syndrome.

10 – 4 Discussion of results

Table 10.2 shows that the majority of university faculty members possess information and knowledge about exercise–induced cardiac hypertrophy. Exercise–induced cardiac hypertrophy is a physiological adaptation resulting from athletic training and the body's systems' responses and adjustments to it. Among the most important of these is the heart muscle, which responds and adapts to exercise by expanding its chambers to accommodate a larger volume of blood during training. Exercise–induced cardiac hypertrophy has received considerable attention from medical and health professionals due to its study and differentiation from pathological heart conditions such as cardiomegaly. Distinguishing between exercise–induced cardiomegaly and pathological cardiomegaly is essential for the health and medical understanding of medical science professionals.

Health science is a group of disciplines in applied sciences that deal with health, and it contains many branches that are concerned with studying the case of the functions of the body's organs and diagnosing abnormal cases of these functions and the extent of their impact ^{3,4} .

An athlete's heart does not pose a health risk to athletes, but if a non-athlete exhibits symptoms of bradycardia, cardiomegaly, or hypertrophic cardiomyopathy, it indicates a heart condition. Furthermore, an athlete's heart is not a cause of sudden cardiac death during or immediately after exercise, which is often caused by hypertrophic cardiomyopathy or a genetically inherited heart condition ^{5, 6}

Table 10-3 shows that experience in academia and teaching various medical and health subjects had a positive impact on instructors ⁷ acquisition of sufficient information about sports heart syndrome, as it became clear that instructors with university experience had better information than instructors with less experience and younger age.

Specialized studies in the physiology and physiological adaptation of the heart muscle indicate that there is a difference in the left ventricular mass of athletes compared to the normal level, especially after two years or more of organized athletic training ⁸

10-5 Conclusion

Based on the results of this study, we conclude the following:

1-The medical and nursing staff's knowledge was good and largely accurate

2-There is a need to improve the teaching staff's knowledge of sports heart syndrome

3-Older teaching staff were the most knowledgeable

4-Teaching staff with the longest service were the most knowledgeable

5-Male teaching staff were more knowledgeable than female teaching staff

6-There was no significant difference in knowledge among teaching staff holding the title of Professor or Assistant Professor

7-There was no significant difference in knowledge among teaching staff in the College of Medicine or the College of Nursing

8-The knowledge of teaching staff with a PhD and those with a Master's degree was not significantly different.

10 – 6 Recommendations

1- Highlighting the manifestations of athletic adaptation of the body's functional systems in research and studies

References

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