

## Awareness, Knowledge and Attitudes of Saudi Population Regarding Common Rheumatic Diseases

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### ABSTRACT

**Study Design:** Cross sectional.

**Background:** Rheumatic coronary illness (RHD) is the most widely recognized cardiovascular sickness overall in those under 25 years old and it is believed to be a late sequela of gathering A streptococcal disease of the throat, the rheumatic fever (RF) influences the focal sensory system, skin, and heart. RF nearly is a totally preventive sickness.

**Methods:** In this cross-sectional study, data were collected by the purposely constructed questionnaire. A questionnaire composed of the demographic items and items related to the awareness and knowledge about the rheumatic diseases. The study was conducted in the Aseer region of Saudi Arabia. After collection of data, data were coded and entered in the SPSS ver.20 software for analyses descriptive statistics (mean standard deviation, frequencies, and %s were computed), to measure the significance differences chi-square test was used at 5% level of significance.

**Results:** Out of total 2770 patients, 28.8% have hermetic diseases, 19.2% and 14.4% got information from friends and family and healthcare professionals respectively.

**Conclusion:** According to the study, there is an urgent need to promote awareness of RF/RHD, sore throat, and its complications among the Saudi community.

**Keywords:** Rheumatic, Diseases, Awareness, Practices, Knowledge

### INTRODUCTION

Rheumatic coronary illness (RHD) is the most widely recognized cardiovascular sickness overall in those under 25 years old and it is believed to be a late sequela of gathering a streptococcal disease of the throat, the rheumatic fever (RF) influences the focal sensory system, skin, and heart. RF nearly is a totally preventive sickness<sup>1</sup>. The sickness patterns in Africa, the Americas, Southeast Asia, and Europe<sup>2</sup>. It is assessed that there are 282,000 new cases and 233,000 passings yearly and there are 15 million instances of RHD around the world. The last enormous review that has been finished in Saudi Arabia in 1991 has demonstrated the predominance of RF to be 0.3 per 1,000 and the ongoing RF to be 2.8 per 1,000 with a sum of 3.1 per 1,000<sup>3</sup>. RHD happens because of the immune system response between M protein of streptococcus and cardiovascular laminin and myosin<sup>4</sup>. Every one of the layers of a heart might be impacted (Epicardium, Myocardium, and Endocardium) with the presence of characters sore ascoff knob<sup>5</sup>. A mean rate of 19 for each 100,000 intense RF has been accounted for in the school-matured people dwelling in the United States<sup>6</sup>. Additionally, the most elevated rate in Australia per 100,000 kids matured somewhere in the range of 5 and 14 years has been accounted for to be 153-380 new cases<sup>7</sup>. A study conducted in Cameroon in 2018 revealed that RHD awareness is poor, and excellent understanding on RHD was associated with age under 36 years, degree of education, and

previous hearing about RHD<sup>8</sup>. Another study found that while females were more likely to suffer ARF, they were less likely to have recurring attacks<sup>9</sup>. It was discovered that educational intervention can increase knowledge of ARF and RHD by 17.6% and 32%, respectively<sup>10</sup>. Schools serve as a platform for RHD health promotion since they serve the most vulnerable population. A 2020 survey in India found that 81% of individuals have little understanding of RHD<sup>11</sup>. A study conducted in the Kingdom of Saudi Arabia (KSA) in 2011 revealed a significant decrease in the frequency of new hospital admissions owing to ARF<sup>12</sup>. Another 2019 study found that RF knowledge, attitude, and awareness were high when compared to other studies. The main aim of the study was to find out the prevalence of awareness, knowledge and attitudes of Saudi population regarding common rheumatic diseases.

### METHODS

In this cross-sectional study, data were collected by the purposely constructed questionnaire. A questionnaire composed of the demographic items and items related to the awareness and knowledge about the rheumatic diseases. A questionnaire was constructed after the series of discussions between the panel of experts this panel was composed of a subject specialist, researcher, language expert. Cronbach alpha of the questionnaire was calculated. The study was conducted in the Aseer region of Saudi Arabia. After collection of data,

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data were coded and entered in the SPSS ver.20 software for analyses descriptive statistics (mean standard deviation, frequencies, and % were computed), to measure the significance differences chi-square test was used at 5% level of significance. Data was collected from the general public through an electronic version of the questionnaire. Ethical approval was obtained from King Khalid University, Saudi Arabia. The study duration was from April 2022 to June -2022.

**RESULTS**

The Cronbach alpha of the questionnaire was 0.84. total respondents were 2770. Table 1 depicted out of total 2770 respondents that 54.2% were male while 45.8% were females, mean (SD) of age was 32.5(12.85), 44.01% were married 45.1% were single, 15.3% and 8.1% have university level and postgraduate education status, 25.8% were students, 43.3% have income between 5000-15000 SAR, 42.9% have no chronic diseases while HTN and DM was major chronic diseases.

**Table 1: Demographics**

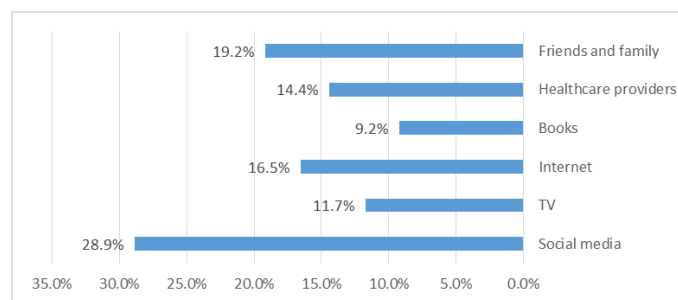
		Frequency	%
Gender	Male	1500	54.2%
	Female	1270	45.8%
Age (years):	Less than 21	780	28.2%
	21-30	745	26.9%
	31-40	785	28.3%
	41-50	281	10.1%
	above 50	179	6.5%
Profession	student	714	25.8%
	teacher	325	11.7%
	health care	259	9.4%
	Military sector	190	6.9%
	Engineer	212	7.7%
	Not-employee	200	7.2%
	private sector employee	600	21.7%
Marital status:	Other	270	9.7%
	Married	1220	44.0%
	Single	1250	45.1%
	Divorced	180	6.5%
	Widowed	120	4.3%
Education	Primary school	750	27.1%
	Intermediate school	800	28.9%
	High school	570	20.6%
	University	425	15.3%
	Post-graduate	225	8.1%
What's your monthly income? (In SAR)	Less than 5000	314	11.3%
	Between 5000-10000	1200	43.3%
	Between 10000-15000	925	33.4%
Do you have any chronic diseases?	More than 15000	331	11.9%
	No	1189	42.9%
	Hypertension	459	16.6%
	Diabetes	369	13.3%
	Hypothyroidism	125	4.5%
	Cardia disease	321	11.6%
	Hypothyroidism	206	7.4%
	Others	101	3.6%

As per table 2, 43.2% agreed that patients with rheumatic diseases should rest as much as possible and move as little as possible, 57.7% have agreed that, all patients with rheumatic diseases will finally end up in a wheelchair, 43.2% will take medical advice for the management of rheumatic disease, 54.5% will marry the rheumatic patients 50.54% agreed that it is a common diseases now a days, 64.9% considered it as a serious diseases, 35.8% had opinion that they had a enough knowledge regarding rheumatic.

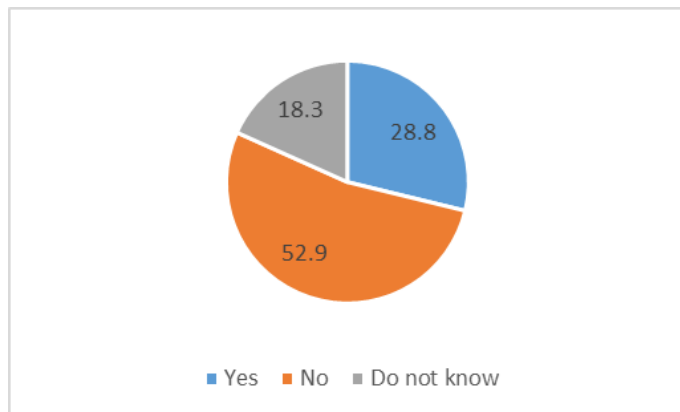
**Table 2: Knowledge related items**

In general, all patients with rheumatic diseases should rest as much as possible and move as little as possible	Frequency	%
True	1200	43.32%
False	1000	36.10%
I don't know	570	20.58%
Almost all patients with rheumatic diseases will finally end up in a wheelchair?		
True	1600	57.76%
False	758	27.36%
I don't know	412	14.87%
What would you do for your management if you have a rheumatic disease?		
I will ask for medical advice	1200	43.32%
I will buy some medication directly from the pharmacy	778	28.09%
I will try some herbal and alternative medicines	367	13.25%
I will ask for physiotherapy	425	15.34%
Would you likely marry a patient with one of rheumatic diseases?		
Yes	1500	54.15%
No	1270	45.85%
Do you think rheumatic diseases are common?		
Yes	1400	50.54%
No	1370	49.46%
Do you think rheumatic diseases are serious?		
Yes	1800	64.98%
No	970	35.02%
Do you think you have enough knowledge regarding rheumatic diseases?		
Yes	980	35.38%
No	1790	64.62%

As per figure 1, 19.2% and 14.4% got information from friends and family and healthcare professionals respectively, Figure 2 depicted that 28.8% have rheumatic diseases.



**Figure 1: Source of your information regarding rheumatic diseases**



**Figure 2:** Do you have rheumatic diseases

As per table 3, 23.61% have no idea about the symptoms that rheumatic disease is especially characterized, 14.44% considered joint pain while 12.8% considered were the major symptoms, 28.48% considered joints will be most affected by this diseases, 46.9% considered that chances of this were common in both genders, 28.48% agreed that it will kore effect the old age persons, genetic (26.9%) and traumatic (22.5%) were the major causes of this diseases. 24.6% agreed that Rheumatoid Arthritis that was a rheumatic disease. 50.54% believed that they Can treat symptoms and stop disease progression in most cases, 32.8% considered it as a moderate cost treatment.

**Table 3:** Knowledge and practices

	Frequency	%
A rheumatic disease is especially characterized by		
Joint pain	400	14.44%
Abdominal pain	355	12.82%
Constipation	125	4.51%
Muscle and joint stiffness	255	9.21%
Nosebleed	259	9.35%
I don't know	654	23.61%
Multiple Answer	722	26.06%
Which Parts of the body can be affected by rheumatic diseases?		
Joints	789	28.48%
Musculoskeletal system	325	11.73%
Gastrointestinal tract	259	9.35%
Kidneys	325	11.73%
Liver	129	4.66%
Central nervous system	145	5.23%
All body systems	451	16.28%
I don't know	300	10.83%
Multiple Answer	47	1.70%
Which of the following sex category are more suspected to have Rheumatic diseases?		
More common in men	900	32.49%
More common in women	400	14.44%
Equal in both sex	1300	46.93%
I don't know	170	6.14%
Which of the following age group are more suspected to have Rheumatic diseases?		
Can affect all ages	325	11.73%
Can affects only children	198	7.15%
Can affects only middle aged persons	458	16.53%
Can affects only old aged persons	789	28.48%

Multiple Answer	400	14.44%
I do not know	600	21.66%
Which of the following can be cause of rheumatic disease?		
Traumatic	625	22.56%
Genetic	745	26.90%
Auto-Immune	326	11.77%
hidden infection	258	9.31%
Office jobs	189	6.82%
Female sex	124	4.48%
Environmental pollution	125	4.51%
I don't know	233	8.41%
Multiple Answer	145	5.23%
Which of following is rheumatic disease?		
Rheumatoid Arthritis	689	24.87%
Down Syndrome	145	5.23%
Meniere disease	259	9.35%
Multiple sclerosis	145	5.23%
Systemic lupus erythematosus	325	11.73%
Sjögren's syndrome	145	5.23%
I don't know	200	7.22%
multiple response	862	31.12%
Do you think that treatment of rheumatic diseases is?		
Curative in most cases	1000	36.10%
Can treat symptoms and stop disease progression in most cases	1400	50.54%
I do not know	370	13.36%
Do you think that drugs used in rheumatic diseases are?		
Safe	1800	64.98%
Toxic	700	25.27%
I do not know	270	9.75%
Do you think that drugs used in rheumatic diseases are?		
Expensive	150	5.42%
Moderate cost	980	35.38%
Cheap	890	32.13%
I don't know	750	27.08%

**Table 4:** Comparison between gender and do you have rheumatic diseases

	Awareness regarding bariatric surgery		
	Yes	No	Total
Male	450	1050	1500
Female	348	1022	1270
Total	798	1972	2770

$p=0.248$

In table 4, we have compared gender with and we have observed that gender do not produce any significant impact on that.

## DISCUSSION

Deficiencies in RF and RHD awareness remain to be the primary impediment to better disease prevention and control outcomes. Prejudices, social and cultural views, low educational levels, and poor environmental conditions all play important roles in the level of awareness. Because public awareness and understanding are critical for managing RF and RHD, this study was conducted to determine the people's knowledge, attitudes, and practices about this disease<sup>13</sup>.

The study population's awareness of RF and RHD was inadequate. our findings reflected that Saudi population have much sense of

awareness regarding rheumatic diseases as compared to other studies. These findings are not congruent with those of a study conducted in Cameroon<sup>14</sup>, a research done in Northern Ethiopia yielded comparable results<sup>15</sup>. On the other hand, a study in Tanzania<sup>16</sup> found that general awareness of RF/RHD was in line with current findings.

This study also discovered that female participants knew a much higher percentage of the primary prevention of sore throat by utilizing antibiotics such as Penicillin. Females were found to be more interested in the treatment because they try to avoid frequent sore throats among their children<sup>16-19</sup>. This work also discovered that both did not have any significant difference regarding the knowledge which is in contrast of previous studies stated 91.6% of females were extremely knowledgeable about the secondary prevention of recurrence of RF and decreased RHD progression, and 91.3% of females were knowledgeable about complications. While fewer moms in the Iran community were knowledgeable about various areas of treatment<sup>20-24</sup>. A diverse population did not provide a clear picture of RF. The cross-sectional design takes time and money, which could be considered a constraint for this study.

## CONCLUSION

**RHD appears to be a key cause of cardiovascular disease. Community awareness should also be raised because we discovered a lack of understanding about the cause and how to deal with it. While attitudes regarding rheumatic fever and rheumatic heart disease appear appropriate, there are considerable gaps in understanding and awareness of these conditions in the study population. Young individuals were most likely to lack information. According to the study, there is an urgent need to promote awareness of RF/RHD, sore throat, and its complications among the Saudi community.**

**Authorship Contribution:** All authors share equal effort contribution towards (1) substantial contributions to conception and design, acquisition, analysis and interpretation of data; (2) drafting the article and revising it critically for important intellectual content; and (3) final approval of the manuscript version to be published. Yes.

**Potential Conflict of Interest:** None

**Competing Interest:** None

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