International Journal of Research in Medical Sciences
Thomas EM et al. Int J Res Med Sci. 2020 Sep;8(9):3230-3234
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012

DOI: http://dx.doi.org/10.18203/2320-6012.ijrms20203492

Original Research Article

Assessment of awareness of common rheumatological diseases amongst final year medical undergraduate students: single centre questionnaire-based survey

Elizabeth Mary Thomas[1], Sandeep Surendran[2]*, Vishal Marwaha[2], Arun Tiwari[2], Hamsini Movva[1], Chirag Lalwani[1]

[1]Department of General Medicine, Amrita Institute of Medical Sciences, Kerala, India
[2]Department of Rheumatology Amrita Institute of Medical Sciences, Kerala India

Received: 27 June 2020
Revised: 19 July 2020
Accepted: 23 July 2020

***Correspondence:**
Dr. Sandeep Surendran,
E-mail: sandeeps@aims.amrita.edu

ABSTRACT

Background: Assessment of awareness of common rheumatological diseases amongst final year medical undergraduate students – single centre questionnaire-based survey.
Methods: A cross-sectional survey of final year students was conducted during a national undergraduate medical summit. Participants were asked to fill out a 10-question survey (online link/in print). Results were summarized using descriptive statistics.
Results: A total 162 medical students completed the survey. Only 18 of 162 respondents were able to score more than 50% in all domains with only one respondent getting all the questions correct. Partial awareness about the major rheumatological diseases in adults was seen with 122 (75%), 110 (68%) and 105 (65%) students having more than 50% correct in the domains of lupus, psoriasis and rheumatoid respectively without scoring completely. By contrast even general awareness of pediatric rheumatology was low with only 34 respondents (21%) having more 50% score in this domain.
Conclusions: These findings are consistent with the general consensus amongst rheumatologists that medical students are inadequately exposed to rheumatological disorders and evolving treatments. Awareness of paediatric rheumatology is the lowest and needs urgent addressing.

Keywords: Medical education, Rheumatology, Training

INTRODUCTION

Rheumatology is nascent subspecialty within the domain of medicine in the Indian Scenario. Data specific to the Indian subcontinent is limited in view of the delayed presentation of patients to specialists and misdiagnosis.[3] Whilst in the past 10 years, formal training opportunities in this subspecialty have expanded significantly; much remains to be done yet to achieve the numbers of professionals required to cater to patients with rheumatic diseases all over the country. There are still very few training centres for rheumatologists.[2] Consequently, owing the lack of formally trained teachers, the knowledge of rheumatological diseases and their treatment options are perceived to be deficient amongst the undergraduate diseases. The focus in the medical specialties is usually on other aspects eg: cardiology, neurology, gastroenterology with rheumatology cases often not even being included in the exit practical exams.[3] Even in regions where attempts have been made to increase education in rheumatology, sometimes due to the ever-expanding nature of medical knowledge, teaching

on rheumatology topics has actually decreased.[6] Ongoing research in Rheumatology also changes the knowledge available on the diseases as well.[4] This deficiency extends to the internship period where mandated procedural training does not always include rheumatology specific procedures e.g.: joint aspirations and intra-articular injections. This conspicuous absence sometimes even extends to specialized MD training.[2] This problem is not confined to India with, even the Association of American Medical Colleges opining that American medical schools may not be adequately training graduates in musculoskeletal conditions.[1] Also, even the students give less importance to rheumatology and may not even feel they require training, unless they are specifically interested in the topic.[7]

Rheumatoid arthritis is estimated to have a prevalence of 0.2-0.75% in India, with osteoarthritis having 5.8%, gout 0.12%, spondylarthritis having 0.1-0.2% and SLE having 3.2 out of 100,000. This means millions of undiagnosed patients are going without the needed medical care. This leads to poor outcomes, both health wise (5-year survival rates for SLE as low as 68%) and from an economic perspective.[3] Lack of awareness leads to reduced diagnosis and poorer outcomes in patients as it is the primary care physicians that often have the first encounter on symptoms perception.

In fact, studies have found that practicing primary care physicians feel less confident in their knowledge of rheumatological disorders.[4,6] This is despite the fact that low backache, neck pain, and pain due to osteoarthritis are a major complaint of patients visiting the hospital.[2]

However no objective quantification of this deficiency has been done; and it is with this background that authors have conducted this survey amongst undergraduate medical students in the final year of their training in South India assessing their awareness and knowledge of conditions pertaining to the rheumatology subspecialty.

METHODS

This study evaluated the awareness and knowledge of towards common rheumatological diseases amongst undergraduate medical students in the final year of their training in South India. It was a cross-sectional survey study design. The 10-question questionnaire was made online using Google Docs and in print. The questions covered various diseases in rheumatology and were considered to part of basic awareness in the field of rheumatology. The questions in each domain were formed after discussion between two adult rheumatologists. The questionnaire was then distributed to students during a national undergraduate medical summit (online link/in print). This was then self-administered but completed in front of the surveyors (in print only). The questionnaire can be seen in Annexure A

The knowledge and awareness about the clinical features and treatment of key diseases testing included rheumatoid arthritis, spondylarthritis including psoriatic arthritis, pediatric rheumatological diseases including Kawasaki's disease and juvenile idiopathic arthritis. Consent was taken from all participants at the beginning of the questionnaire and it was an anonymized survey. Institutional ethical clearance was taken for the study also.

Statistical analysis

For statistical analysis, the summary of categorical data was presented in terms of frequency count (n) and percentages (%).

RESULTS

A total of 162 medical students (both the 3rd and 4th years of medical school training) responded and completed the survey. This includes only respondents who completed the survey in its entirety. The results in the various domains are graphic represented in Table 1 and Figure 1.

Table 1: Scoring of individual disease domains (in percentage).

Domain	Results
General rheumatology	A total 79% of the responses in this domain were correct
Rheumatoid arthritis	A total 65% of student had a domain score more than 50%
Psoriatic arthritis	A total 68% of students had a domain score more than 50%
Systemic lupus erythematosus (SLE)	A total 75% of students had a domain score more than 65%
Paediatric rheumatology	
Kawasaki's disease	A total 32% of students had a domain score more than 50%
Systemic juvenile arthritis	A total 25% of students had a domain score more than 50%
Total score	A total 57% of students had a total questionnaire score more than 50%

The following points also can be noted on further analysis of the individual questions

- Only 14.8% of the students (24 out of 162) were able to answer all the questions related to psoriatic arthritis correctly
- Only 33.3% (54/162) were able to answer all the questions accurately in the domain of systemic lupus erythematosus (SLE)
- 18.5% (30/162), managed to properly answer the entire question in the domain of Kawasaki's disease,

while for sJIA, only 1 of the 162 respondents could answer it in its entirety

- Regarding treatment options for rheumatological disorders 59.3% (96/162) of the students were not aware of aspects of the currently available medications.
- Only 18 of 162 respondents were able to score more than 50 % in all domains with only one respondent getting all the questions correct.

The interrelation between the disease's domains are shown in Table 2.

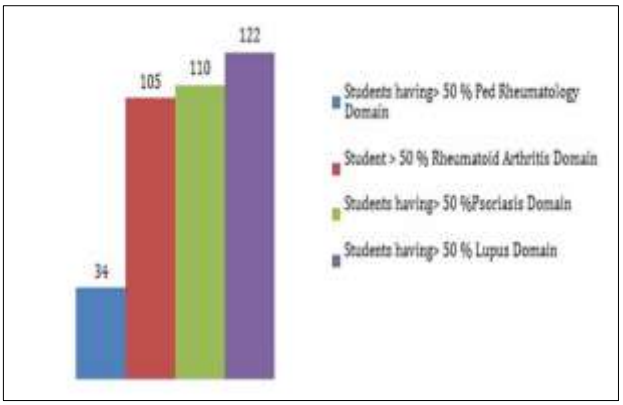

Figure 1: Number of respondents scoring more than 50% in the individual disease domains.

Table 2: Relationship between domains and number of respondents who scored more than 50 % in individual disease domains.

Number of respondents (%)				
Domains	**Rheumatoid arthritis (>50% correct)**	**Lupus (>50% correct)**	**Psoriasis (>50% correct)**	**Paediatric rheumatology (>50% correct)**
Rheumatoid arthritis (>50% correct)	-	84 (51.8%)	70 (43.2%)	25 (15.4%)
Lupus (>50% correct)	84 (51.8%)	-	92 (56.8%)	33 (20.4%)
Psoriasis (>50% correct)	70 (43.2 %)	92 (56.8%)	-	27 (16.7%)
Paediatric rheumatology (>50% correct)	25 (15.4%)	33 (20.4%)	27 (16.7%)	-

DISCUSSION

This study was conducted to understand how much familiarity the outgoing medical students had with Rheumatological diseases, their recognition and treatment options. Overall, there were definite deficiencies in the knowledge of different aspects of these diseases, with no student was able to answer all the questions in the survey, individual questions showed a better response based on topic. Students tend to be aware more about rheumatoid arthritis and lupus and psoriasis than pediatric rheumatology as seen in Table 1. It can be noted that unawareness of pediatric rheumatology is very high amongst the students. Lack of than detailed basic knowledge is also reflected in the total score with more than half of the students (128 of the 162 respondents - 79.1%; scoring less than 50% on total responses. This study has evaluated medical students close to finishing the initial part of their training for their knowledge of modern concepts in rheumatology. There is definite gap in their knowledge of these areas and this is evident from this study. While rheumatological disorders are covered in the current medical training syllabus, it is evident that the emphasis placed on it is less than ideal.

General practitioners are the primary contact of various diseases in the community. The lower awareness within the domain of rheumatological and musculoskeletal diseases towards the end of MBBS training is disheartening. Post graduate and specialty training in rheumatology has progressed by leaps and bounds in the recent years with increasing fellowships and super specialty seats.[3] However, this study results reinforce the consensus that suggest medical training has not been able to keep pace with this progress. This study shows that a stimulus to emphasize rheumatology more in the undergraduate training is needed.

Teaching of rheumatologic diseases during MBBS consists of few hours of theoretical didactic lectures, during 6th to 9th semesters. During final year medicine or orthopedic examination, it is rare to get a case of common musculoskeletal disease, namely low backache or OA knee. Instead, students are allotted rare diseases such as motor neuron disease or muscular dystrophy, which they will rarely encounter or treat in future.[2] Early diagnosis and intervention will of course make for less mortality and morbidity in the lives of patients. Awareness that there are multiple treatment options available will help them to advise the patients and facilitate communication with the specialists.

It should be noted that this is a single center study and larger studies are needed to identify the correct areas for

development of the rheumatological awareness. There are many options available to increase student exposure to rheumatology. One of the options being studied is peer assisted learning, where, instead of traditional lectures delivered by an expert, students with knowledge of the subject assist in educating other students. Studies have shown that peer assisted learning resulted equivalent knowledge gain compared to traditional methods of teaching.[5] This may prove valuable in the Indian set up with limited specialists available for teaching opportunities. Other options include making rheumatology topics part of the core MBBS training, increasing training the rheumatological procedures during internship and promotion of research in rheumatology even at the undergraduate level.[2] The part of Rheumatology which should ideally be part of the core curriculum include clinical skills such as history taking and locomotor system examination which would allow medical graduates to be able to manage such common ailments as osteoarthritis and back pain, etc.[4] Only with this with the general population get the full benefit of the recent increase in medical knowledge on Rheumatological disorders.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Day CS, Yeh AC, Franko O, Ramirez M, Krupat E. Musculoskeletal medicine: an assessment of the attitudes and knowledge of medical students at Harvard Medical School. Acad Med. 2007;82(5):452-7.
2. Pangtey GS, Gulati S, Maheshwari A. Improving knowledge and awareness regarding rheumatology at the undergraduate level in Indian medical colleges. Indian J Rheumatol. 2018;13(4):217.
3. Handa R. Rheumatology in India-quo vadis?. Nature Reviews Rheumatol. 2015;11(3):183-8.
4. Dacre JE, Griffith SM, Jolly BC. Education: Rheumatology and medical education in Great Britain. Rheumatol. 1996;35(3):269-74.
5. Graham K, Burke JM, Field M. Undergraduate rheumatology: can peer-assisted learning by medical students deliver equivalent training to that provided by specialist staff?. Rheumatol. 2008;47(5):652-5.
6. Kay LJ, Deighton CM, Walker DJ, Hay EM. Undergraduate rheumatology teaching in the UK: a survey of current practice and changes since 1990. Rheumatol. 2000;39(7):800-3.
7. Thapper M, Roussou E. Medical students' attitude towards rheumatology training at foundation years' level in the UK and rationale behind the students' choice: results from a national survey. Rheumatol Inter. 2013;33(4):933-8.

Cite this article as: Thomas EM, Surendran S, Marwaha V, Tiwari A, Movva H, Lalwani C. Assessment of awareness of common rheumatological diseases amongst final year medical undergraduate students - single centre questionnaire-based survey. Int J Res Med Sci 2020;8:3230-4.

Annexure A

Rheumatology knowledge assessment questionnaire (Correct answer are highlighted in bold)

1. Patients with arthritis should have strict and prolonged bed rest
   a. True
   b. **False**
2. Does rheumatoid factor positivity (or anti CCP positivity) confirm the diagnosis of rheumatoid arthritis in a person with mechanical low back pain?
   a. True
   b. **False**
3. Which of the following is not important for early remission of rheumatoid arthritis?
   a. Early initiation of glucocorticoids
   b. Early initiation of methotrexate
   c. **Lack of family history and sero-positivity**
   d. Early consultation with a rheumatologist
4. Which of the following is a biological drug not typically used in Rheumatological diseases?
   a. Rituximab
   b. Infliximab
   c. Tocilizumab
   d. **Alemtuzumab**
5. Select any 3 of the following symptoms which are not seen in the spectrum of psoriatic disease ?
   a. Red and scaly plaques on the skin
   b. Swollen distal interphalengeal joints
   c. Thickened nails
   d. **Open angle glaucoma**
   e. Sausage like digits
   f. **Interstitial lung disease**
   g. Syndesmophytes
   h. Crescent Glomerulonephritis
6. Which of the following are correct about lupus and psoriasis?
   a. Lupus skin lesions are contagious during the active phase
   b. Psoriatic skin lesion are contagious during the active phase
   c. Both lupus and psorariform lesions are contagious during the active phase
   d. **Both lupus and psorariform lesions are non-contagious during the active phase**
7. Who has a higher predisposition toward Systemic Lupus Erythematosus?
   a. Male
   b. **Females**
   c. Both are equal
8. Are pregnant women with active lupus considered to be high risk pregnancies?
   a. **Yes**
   b. No
   c. Depends
9. Which of the following is true about Kawasaki's Disease?
   a. **It is a clinical diagnosis that is made by the classical presentation**
   b. It is biochemical diagnosis made by the Anti Kawasaki antibody positivity by ELISA
   c. **It has a predilection to affect the coronary artery vessels**
   d. It has predilection to cause diffuse alveolar haemorrhage
   e. The natural history of the disease is of multiple relapses and remissions
10. The recommended treatments for active systemic onset juvenile arthritis with or without macrophage activation syndrome include
    a. **Glucocorticoids**
    b. **Tocilizumab**
    c. Anakinra
    d. Rituximab
    e. Infliximab