ORIGINAL ARTICLE

AWARENESS OF SYMPTOMS AND SIGNS IN SPONDYLOARTHRITIS AMONG FAMILY PHYSICIANS IN EDIRNE CITY CENTER

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ABSTRACT

Aims: The aim of this study is to evaluate the knowledge of signs and symptoms of spondyloarthritis among family physicians working in Family Health Centers in Edirne. ***Methods:*** In this study, a questionnaire consisting of 17 questions were applied to the family physicians working in the Family Health Centers of Edirne Province. The data were analyzed using non-parametric Spearman Correlation test and Mann-Whitney U test on IBM SPSS version 20.0. ***Results:*** The total number of subjects in the study was 45. All subjects' median age was 47 years (1st quartile, 42 years; 3rd quartile, 51 years). Five of the participants were family medicine specialist. The median duration of medical practice was 20 years (1st quartile, 13 years; 3rd quartile, 25.5 years). Four of the participants were trained in rheumatology. The median number of patients examined by the participants was 60 per day (1st quartile, 47.5; 3rd quartile, 70). Forty-one of the participants stated that they referred patients with back pain to the hospital for further examination. The median number of referral percentage was 15 (1st quartile, 5; 3rd quartile, 25). ***Conclusion:*** Spondyloarthritis is a disease that is diagnosed too late and reduces patients' quality of life. In this study, it was investigated which factors could be related to spondyloarthritis awareness of family physicians in a limited area. The most important output of this is study is the relation between referrals to rheumatology and awareness of spondyloarthritis. These parameters are related to each other and the physician. ***Keywords:*** Back pain, arthritis, family physicians

INTRODUCTION

Spondyloarthritis (SpA) is a group of chronic systemic inflammatory immune-mediated rheumatic diseases which affect axial and peripheral joints (1). Ankylosing spondylitis is the most common group in spondyloarthritis which is a rheumatic disease with common clinical symptoms (2). It is a chronic inflammatory disease which primarily affects the spine and sacroiliac joints (1).

Treatment in the early stages for spondyloarthritis is very efficient; therefore, early diagnosis is crucial for the treatment of the disease. However, there are no pathognomonic clinic or laboratory tests for spondyloarthritis (3).

Primary health care service is provided by family physicians in Family Health Centers. Giving people fundamental healthcare is a very important mission which is family physicians' responsibility. Family physicians can also make an early diagnosis and decide if the patient needs to be sent to any specialist. Symptoms of spondyloarthritis show similarities with other diseases, therefore symptoms can mislead primary care physicians to misdiagnoses (3).

Inflammatory back pain is one of the most important symptoms of spondyloarthritis (4). Despite its importance, it can be misdiagnosed as myalgia in primary care because of the similarities in symptoms (4). Such similarities among different diseases make diagnostic processes difficult. If the family physician does not have enough knowledge about spondyloarthritis, the patient may receive an inappropriate treatment.

The aim of this study is to investigate the knowlegde of family physicians on signs and symptoms of spondyloarthritis.

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MATERIAL AND METHODS

This study was approved by the Scientific Research Ethics Committee of Trakya University Medical Faculty (Protocol Code: TÜTF-BAEK2019/62). Permission to conduct the questionnaire to the family physicians in Edirne was obtained from the local health authority of the city. Informed consent was obtained from the family physicians who answered the questionnaire. The study was carried out between March and May 2019. The participants of the study were planned to be 53 family physicians working in 23 Family Health Centers in Edirne city center. However, 8 family physicians refused to participate. Questionnaires consisting of 17 questions were given to the participants during working hours (Table 1). The participation was on a voluntary basis and the necessary information was written on the questionnaire.

In the questionnaire, sociodemographic data like age, degree and the years of practice were questioned. The information from questions 6, 9 and 10 was obtained from the computer system of the Ministry of Health by family physicians. However, answers to these questions were not used in the analysis due to missing data. Question 16 was composed of 20 yes/no items that evaluate the family physicians' knowledge of spondyloarthritis (Table 1).

Data was analyzed with IBM SPSS version 20.0. Suitability of quantitative data for normal distribution was analyzed using Shapiro-Wilk test. Spearman's correlation analysis was used to investigate the relation between the number of correct answers given in yes/no items of the questionnaire and age, years of practice, the number of patients per day, and referral percentage. Mann-Whitney U test was used to compare the number of correct answers given in yes/no items of the questionnaire with categorical data of specialty, training in rheumatology, referral to orthopedics department, neurology department, neurosurgery department, physical medicine and rehabilitation department, internal medicine department, rheumatology department. A p-value of <0.05 was evaluated as statistically significant. Numbers, percentages, median, 1st quartile and 3rd quartile were used as descriptive statistics for this study.

RESULTS

This survey-based study was conducted among 53 family physicians working in 23 Family Health Centers in Edirne city center. Eight family physicians refused to participate and were excluded from the study. Therefore, 45 participants were included in the study.

Sixteen of 20 yes/no items have been evaluated. All subjects' median number of correct answers given as yes/no items was 14 (1st quartile, 12; 3rd quartile, 15). All subjects' median age was 47 years (1st quartile, 42 years; 3rd quartile, 51 years). No significant correlation was found between age and number of correct answers given in yes/no items of the questionnaire ($p=0.062$). The median duration of medical practice was 20 years (1st quartile, 13 years; 3rd quartile, 25.5 years). There was no significant correlation between the duration of practice and the number of correct answers ($p=0.127$). The median number of patients examined by the participants was 60 per day (1st quartile, 47.5; 3rd quartile, 70). There was no significant correlation between the number of patients examined daily and the number of correct answers ($p=0.477$). The median number of referral percentage was 15 (1st quartile, 5; 3rd quartile, 25). No significant correlation was found between referral percentage and number of correct answers ($p=0.303$) (Table 2).

Five of the participants were family physician specialists. The median number of correct answers for family physician specialists was 15 (1st quartile, 14.5; 3rd quartile, 16) and 13.5 (1st quartile, 12; 3rd quartile, 15) for family physicians. A statistically significant association was found between being a family physician specialist and number of correct answers ($p=0.024$). Four of the participants were trained in rheumatology. No statistically significant association was found between the rheumatology training and the number of correct answers ($p=0.162$) (Table 3).

Forty-one of the participants stated that they referred patients with back pain to the hospital for further examination. Five of the participants stated that they referred to rheumatology. The median number of correct answers given as yes/no items for participants referred to rheumatology was 15 (1st quartile, 15; 3rd quartile, 15.5) and 13.5 (1st quartile, 12; 3rd quartile, 14.75) for participants referred to other departments. Statistically significant association was found between referral to rheumatology and the number of correct answers ($p=0.022$), but there was no statistically significant association found between referral to other departments and number of correct answers ($p>0.005$) (Table 3).

Table 1: Questionnaire used for the study.

1. What is your age?
2. What is your degree? Family physician ☐ Family physician specialist ☐
3. For how long have you been practicing? For … years
4. Have you attended any course/ training/ workshop concerning rheumatology? (If your answer is no, please skip to the sixth question) Yes ☐ No ☐
5. What was the name of the training you had about rheumatology?
6. What is the number of patients registered to you?
7. What is the mean number of patients you examine daily?
8. Averagely, how many of the patients you examine daily apply with low back pain complaint?
9. What is the age profile of your registered patients? 11-20 21-30 31-40 41-50 51-60 60-64 65+
10. How are the age range and gender distributions of your patients with low back pain?

	Woman	Man
11-20		
21-30		
31-40		
41-50		
51-60		
61-64		
65+		

11. What is the percentage of your patients you have referred to a higher center or hospital for low back pain?
12. What is the name of the department you referred your patients with low back pain?
13. How did you get feedbacks after referring your patients to the other departments? (You may choose more than one option.) By contacting the doctor ☐ From patient himself ☐ From consultation paper ☐ From the information recorded in the system ☐ Other ☐
14. Have you received feedback from the patients you referred to a different department?
15. If you received their feedback, what are the diagnoses that your patients frequently receive?
16. Answer the following questions.

Family history should be questioned.	Yes ☐	No ☐
Low back pains that last longer than 3 months should be referred to a higher center.	Yes ☐	No ☐
Acute low back pain is mostly due to mechanical causes.	Yes ☐	No ☐
Chronic low back pain that begins before the age of 45 requires further examination for spondyloarthritis.	Yes ☐	No ☐
A significant response to non-steroidal anti-inflammatory drugs is a significant clue for low back pain associated with spondyloarthritis.	Yes ☐	No ☐
Low back pain increased with resting, decreased with exercise is mechanical originated.	Yes ☐	No ☐
Night pain is a characteristic of inflammatory low back pain.	Yes ☐	No ☐
Mechanical low back pain is mostly associated with spondyloarthritis.	Yes ☐	No ☐
Low back pain with inflammatory origin starting after 45 years of age requires further examination.	Yes ☐	No ☐
HLA-B27 positivity is a finding related to spondyloarthritis.	Yes ☐	No ☐
The presence of arthritis may be associated with spondyloarthritis	Yes ☐	No ☐
Heel pain can be a symptom associated with spondyloarthritis.	Yes ☐	No ☐
The presence of uveitis may be associated with spondyloarthritis.	Yes ☐	No ☐
The presence of chronic diarrhea may be associated with spondyloarthritis.	Yes ☐	No ☐
The presence of psoriasis may be associated with spondyloarthritis.	Yes ☐	No ☐
A high level of C reactive protein (CRP) may be associated with spondyloarthritis.	Yes ☐	No ☐
A high level of ASO may be associated with spondyloarthritis.	Yes ☐	No ☐
Celiac disease is one of the diseases that may be associated with spondyloarthritis.	Yes ☐	No ☐
Systemic lupus erythematosus is one of the diseases that may be associated with spondyloarthritis.	Yes ☐	No ☐
Gout is one of the diseases that may be associated with spondyloarthritis.	Yes ☐	No ☐
Is there anything you would like to add?		

Table 2: The correlation of participants' characteristic with the number of correct answers given in yes/no items.

		Age	Duration of medical practice	Number of patients per day	Referral percentage
Total correct answers in yes/no items	ρ*	-0.281	-0.231	0.109	0.165
	p	0.062	0.127	0.477	0.303

*Rho

Spearman's correlation analysis, p≤0.05.

Table 3: The relation of participants' characteristic with the number of correct answers given in yes/no items.

		Specialty	Training in rheumatology	Referral to rheumatology	Referral to physical medicine and rehabilitation	Referral to neurosurgery	Referral to orthopedics	Referral to neurology	Referral to internal medicine
Total correct answers in yes/no items	p	0.024	0.162	0.022	0.458	0.525	0.432	0.276	0.274

Mann-Whitney U test, p≤0.05.

DISCUSSION

Spondyloarthritis is a group of chronic systemic inflammatory immune-mediated rheumatic diseases which affect axial and peripheral joints. People in their teens and 20s, particularly males, are affected the most (1). Therefore, early diagnosis is very important for the course of the disease. In Turkey, getting the diagnosis of spondyloarthritis takes about 8 years (5). The main point of this study was to evaluate the knowledge of family physicians about spondyloarthritis for giving the early diagnoses.

Family Health Centers are institutions that provide primary health care service and family physicians are one of the key steps of the health care system in the world. These centers and doctors are seen as a bridge between the general health care system and the patients because of the easy access to the living quarters and also because patients are constantly followed up their family physicians (6). Considering all these advantages, it is very important for the family physicians to make the correct diagnosis, to apply the adequate treatment and to decide if the patients need to be referred to a secondary or tertiary health care facility. Referring the patients to the right department is also important for the efficient treatment of the patients. Spondyloarthritis is also among these diseases.

In primary care, there are family physicians and family physician specialists working in the field in Turkey (6). In our study, a significant difference between the specialization and correct answers was found (p=0.024). Results are more reliable in a community with more family physician specialists. According to the developments of the medical specialization educa-

tion, new generation of family physician specialists will be trained for physiotherapy as an optional vocational training (7). This may raise the awareness of spondylarthritis in the near future.

According to our results, there is no significant relationship between awareness of spondyloarthritis and training in rheumatology (p=0.162). Cooper et al. (8) declared that short pieces of trainings have an impact on physicians in a positive way. However, in our study, the short pieces of trainings of physicians like workshops or courses did not have any deviant effect on the knowledge of the physicians. The diagnosis and their treatment of the spondyloarthritis are not expected from family physicians. However, in our health system, they should know specific symptoms of spondyloarthritis and not neglect it in order to manage the further process.

In our study, there was a significant relationship between correct answers and referral to rheumatology (p=0.022). This shows that in primary care, if the physician knows the differential diagnosis of rheumatologic back pain, the physician can make a more accurate decision in order to guide the patients to the right specialists. With the right referral of the patient, appropriate access to health care is provided just like Hazlewood et al. (9) declared in their study.

There was no correlation between the age of the family physicians and their correct answers (p=0.062). In a review, it was stated that there could be a positive and a negative relationship between age and medical professionalism (10). In other words, it can be said that advanced age can have a positive effect on the issue as it increases the experience but on the other hand; factors like attrition, aging, tiredness etc. may affect them negatively (10). In our study, we did not find any association that could support or refute these theories on behalf of SpA awareness and age.

Morris et al. (11) stated that it is hard to make correct clinical choices if the credible evidence is lacking. Moreover, there was a considerable amount of limitations in this survey-based study. First of all, the area in which this study was conducted is local (central district of Edirne). This defines the number of physicians that attends the study which is a negative factor for validity. In addition, since this study was conducted as a survey, participant's attitudes might misguide the results. For example, the participant might get help from using online or other sources while answering the questions. Additionally, they might declare number of the patients incorrectly. All of these factors might affect the results of the study.

As a conclusion, in this study, it is found that the most important factor related to the spondyloarthritis awareness of family physicians was to refer the patient to the rheumatology service. On the other hand the results that were not significant in this study may be a guide for future SpA awareness studies in order to decide on points should be focused on.

Ethics Committee Approval: This study was approved by the Scientific Research Ethics Committee of Trakya University Medical Faculty (Protocol Code: TÜTF-BAEK2019/62).

Informed Consent: Informed consent was obtained from all of the participants of this study.

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