ORIGINAL ARTICLE

Demographic Features of Patients with Rheumatoid Arthritis in Kosovo

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ABSTRACT

Introduction: Rheumatoid arthritis (RA) is a chronic autoimmune inflammatory illness characterized by polyarthritis of small and large joints which in the course of time may progress to disability. **Material and methods:** In our prospective study were included 951 patients (females 730, and males 221 respectively) with an average age 51.3 year old, diagnosed with RA in accordance with ACR-EULAR/2010 criteria. The purpose of the paper is to investigate gender, age, group age by gender, level of education, residing place, nationality, religion, social condition, marital status, and vocation in our patients. Statistical processing has been carried out with program SPSS 20.0, SigmaStat 2.03, SigmaPlot 2000, MedCalc and Excel 2010. Most present group age was 40 – 49 year old with difference in distribution based on gender. **Results:** The largest number of them had completed secondary education, most of them originated from rural areas, were farmers by vocation and housewives. The database created by this survey can serve for building the RA patients' national registry. This registry can serve for further researches and planning the management of RA as a systemic rheumatic disease that has an immense social, economic and health impact. Largest portion of RA patients were farmers and housewives respectively (38% and 32.2% respectively). Vocations such as: retail sellers, workers in administration, education, factory, maintenance, and artisan workers had similar incidence in both genders that ranged from 9.7% to 6.2%, whereas these vocations among males ranged from 11.3% to 2.7%.
Key words: rheumatoid arthritis, demographic features, group age, national registry.

1. INTRODUCTION

Rheumatoid arthritis (RA) is a chronic autoimmune inflammatory illness characterized by polyarthritis of small and large joints which in the course of time may progress to disability (1).

Due to its pathogenesis, this condition affects internal organs, particularly heart, lungs, kidneys, blood vessels, brain, and therefore is regarded as a systemic illness (2).

RA is a ubiquitous condition throughout the globe; it affects all races, both genders and all age groups. RA affects individuals in rural and urban areas; it doesn't have any correlation with season neither with socio-economic living conditions (3).

RA is variably distributed in various countries worldwide, with extremely high incidence among North American Indians, and low incidence ranging 1% in the European population (4).

In certain parts of the African continent RA has been never found, the reason is unknown, but there is a possibility of immunosuppression playing the role due to chronic malnutrition and parasitic infections (5).

Females are more prone to RA 2 – 3.5 times more often than men, and this difference is due to hormonal differences, because by approaching the sixth decade of life, the hormonal differences among genders are minimal, or even are equal with men's hormones (6).

Other vertebrates are more rarely affected by this condition, with exception of dogs (7).

RA is more widespread among tobacco smokers of both genders, with hormonal factor playing an important role here (8).

Pregnancy also plays role in the presentation and course of rheumatoid arthritis among females (9).

Rheumatoid arthritis has expansion on all group ages, vocations, locations, nevertheless this extent has quantitative differences (10, 11).

Maximum incidence or RA is recorded during 4 – 6 decades of life, and incidence above this age is rare (12).

2. THE PURPOSE OF THE PAPER

The purpose of the paper is to investigate gender, age, group age by gender, level of education, residing place, nationality, religion, social condition, marital status, and vocation in our selected sample of patients with rheumatoid arthritis.

3. MATERIAL AND METHODS

Our prospective study was based on the descriptive and research method and has included 951 patients that were treated in the Clinic for Rheumatology (both inpatients and outpatients) during the 2011-2013 period.

Diagnose is based upon history and objective examination. All patients underwent the following examination: Haemogram, ESR, urine analysis, lipid analysis, glycemia, liver markers, kidney markers, serological investigation (RF, CRP, fibrinogen, ASTO, Anti CCP), palm and feet RTG, lung and heart x – ray, CT and MR (only when clinically required), and specialists were asked for consultations depending on the clinical findings .

Patients were diagnosed with RA based upon the ACR-EULAR/2010 criteria. Upon determining diagnose, each patient was assigned with the file for RA, where the activity of illness has been assessed based on the DAS – 28 calculation model.

All patients have preliminarily given consent to be a part of our study. In the study were included patients with RA and overlapping syndrome who have scored at least 6 points according to the ACR-EULAR/2010 criteria for RA.

Statistical processing has been carried out with program SPSS 20.0, SigmaStat 2.03, SigmaPlot 2000, MedCalc and Excel 2010.

Statistical analysis has helped us in descriptive analysis, whereas statistical parameters have helped us to determine the structure index, arithmetic median, standard deviation, standard error, and confidence interval with accuracy 95% (95% CI).

4. RESULTS

Data were presented in tables and graphs. The research included 951 patients, 730 (76.8%) of them were females, and 221(23.2%) were males respectively. All of Caucasian race, with average duration of illness 6.32±12 years.

Most represented group age in both genders was 40-49 year old (32.5% of females, 33% of males respectively).

|	Females		Males		Total	
	Nr.	(%)	Nr.	(%)	Nr.	(%)
Frequency*	730	76.8	221	23.2	951	100.0
Group age						
30-39	120	16.4	31	14.0	151	15.9
40-49	237	32.5	73	33.0	310	32.6
50-59	189	25.9	44	19.9	233	24.5
60-69	122	16.7	53	24.0	175	18.4
70-79	62	8.5	20	9.0	82	8.6
age, MEAN (SD) years **	51.0	(11.4)	52.4	(11.7)	51.3	(11.5)

Table 1. Distribution of patients based on group age and gender. * Chi-test (F vs. M) = 8.047, df =4, (P = 0.09 ** Mann-Whitney Rank Sum Test
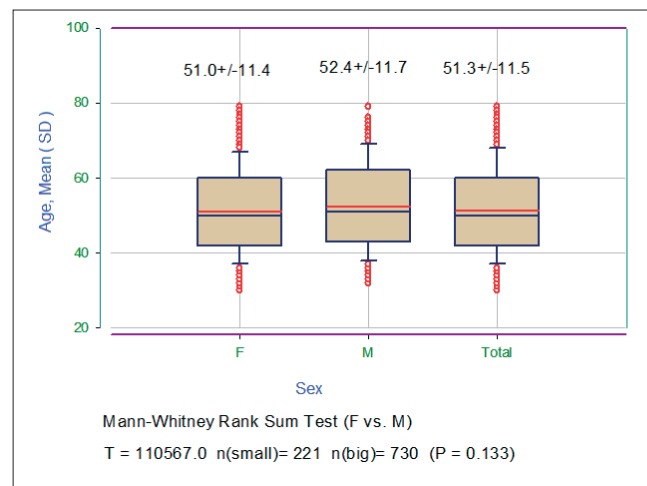
Diagram 1. Mean age of patients with RA based on gender

Typ of demografic features	Subtyp of demographic features	%
Education backgruond	1.Secondary education	63.1
	2.Comleted elementary education	24.1
	3.High school-University	6.8
	4.Incomplete elementary education	3.2
	5.Illiteraty	2.8
Residing placa	1.Rural	63.3
	2.Urban	36.7
Nacionality	1.Albanian	93.6
	2.Bosniac	1.1
	3.Turkish	0.4
	4.Other	4.9
Religions*	1.Islam	94.7
	2.Catholic	2.8
	3.Orthodox	0.7
	4.Undeclared	1.8
Social status**	1.Average income	62.7
	2.Low income	28.5
	3.High income	6.0
	4.Poverty	3.1
Marital status	1.Married	60.4
	2.Single	30.9
	3.Widoved	6.7
	4.Divorced	2.0

Table 2. Other typ of demographic features *. Self-declared, not a mandatory question in the questionnaire **. Data from personal history
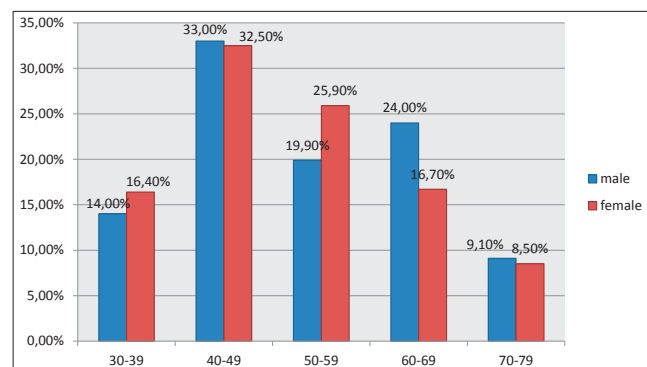
Diagram 2.The age group by gender

Difference in case distribution among genders lies on the second range of patients, namely females of the group age 50-59 year old were represented with 25.9% of patients,

	Female		Male		Total	
Vocation	Nr.	(%)	Nr.	(%)	Nr.	(%)
Farmer, House-wife	235	32.2	84	38.0	319	33.5
Retail seller	71	9.7	25	11.3	96	10.1
Administration worker	69	9.5	20	9.0	89	9.4
Education	57	7.8	15	6.8	72	7.6
Factory worker	50	6.8	12	5.4	62	6.5
Maintenance worker	46	6.3	9	4.1	55	5.8
Artisans	45	6.2	6	2.7	51	5.4
Police officer	40	5.5	5	2.3	45	4.7
Security	37	5.1	4	1.8	41	4.3
Goldsmith	14	1.9	8	3.6	22	2.3
Legal officer	18	2.5	2	0.9	20	2.1
Baker	12	1.6	7	3.2	19	2.0
Painter	12	1.6	3	1.4	15	1.6
Bank teller	12	1.6	3	1.4	15	1.6
Postman	8	1.1	6	2.7	14	1.5
Hair dresser	2	0.3	2	0.9	4	0.4
Driver	1	0.1	2	0.9	3	0.3
Vineyard work-er	0	0.0	2	0.9	2	0.2
Bank officer	1	0.1	4	1.8	5	0.5
Retired	0	0.0	2	0.9	2	0.2

Table 3. Distribution of RA cases based on vocation and gender

while males on the second range were in the group age 60-69 year old represented 24% of patients, while males of the group age 40-49 year old comprised a total of 19.9% of patients. In both genders the smallest number of patients belonged to group age of 70-79 year old 8.5% of females and 9% of males respectively

Mean age of patients with RA was 51.3 year old (Mean+/-SD: 51.3+/-11.5), without significant differences among genders (51+/-11.4 vs. 52.4+/-11.7, p=0.133)

Largest portion of RA patients were farmers and house-wives respectively (38% and 32.2% respectively). Vocations such as: retail sellers, workers in administration, education, factory, maintenance, and artisan workers had similar incidence in both genders that ranged from 9.7% to 6.2%, whereas these vocations among males ranged from 11.3% to 2.7%.

5. DISCUSSION

Our research has investigated demographic features of patients with RA. In recent scientific papers there are very scarce data on the demographic findings in relation to this pathology, though epidemiological data are quite a lot in number. As for the age and gender, data from our research are in correlation with recent publications (5) (6).

Level of education of patients didn't play role in the incidence of RA.

As for the residing place, in our research have dominated patients from rural areas, and this was expected because in the last population census largest number of population dwelled in rural areas in comparison to urban

areas and this data is in correlation with other publications (13, 14).

Exception from this rule is a paper from Lau et alia who have found a very low prevalence among Chinese urban population of Hong Kong in comparison with other publications (15).

We have analyzed national and religious affiliation of our subjects, but ultimately it didn't have any impact in the prevalence of RA in comparison with data obtained from the population during the last census (16).

Author Bankhead et al have investigated the role of five socio-economic factors on the increased incidence of RA, but have failed to find a positive correlation between the decrease of this factors and increased incidence of RA (17).

In our research too the social condition of patients didn't play any role on increase of decrease in the incidence of RA.

Marital status, taking contraceptive pills, and gravidity have impact both on the onset and course of RA (18, 19).

In our research we have found that largest number of patients with RA was farmers and housewives respectively, and this was expected because largest number of patients was from rural areas.

6. CONCLUSION

- Rheumatoid arthritis (RA) is a chronic autoimmune inflammatory illness characterized by polyarthritis of small and large joints which in the course of time may progress to disability
- In our prospective study were included 951 patients (females 730, and males 221 respectively) with an average age 51.3 year old.
- Most present group age in both genders was 40 – 49 year old with difference in case distribution, because the second range among females was 50 – 59 year old, whereas for males the second range was 60 – 69 year old.
- Largest number of patients were with completed secondary education, followed by those with elementary education, higher education. Very few were with incomplete elementary education and several illiterate patients.
- Most of patients were from rural areas, numerically dominant nationality and religion was Albanian and Islam respectively.
- With regard to social status, based on the personal history, most of patients were belonging to middle class, but also considerable number of patients belonged to lower and upper classes.
- Married patients were dominant to those single, and few patients were widowed and divorced.
- Largest portion of patients with RA were farmers and housewives respectively, but illness has also affected wide range of other vocations.
- Based on the data we posses, it is noticeable an increasing tendency of RA presentation in the group age of 60-69 year old males, and an increased presentation of RA among divorced patients.
- This research which has included this many number of patients has revealed how detrimental are social

and health consequences of RA, therefore this pathology deserves special attention in its diagnosing, early treatment with DMARD and biological therapy is essential in prevention of advance of RA and thus prevention of disability that may occur in this condition.

Recommendations

- This multi-centric study has indicated that all age groups (exception of pediatric age which has not been investigated by our team) are attacked by RA.
- This research will serve as a baseline for analyzing other factors that are important for the course and treatment of RA.
- Demographic factors here evaluated in relation to RA have to be analyzed in correlation to other factors as well, such as season of the year, habits of patient (tobacco smoking, coffee drinking, alcohol consumption), as well as mode of RA onset (slow or abrupt).
- Database created from this survey may serve as a tool for the National RA Patients Registry.
- The National RA Patients Registry may serve as a tool for planning purposes with regards to RA, which as an systemic rheumatic illness has a significant social, economic and medical impact.

CONFLICT OF INTEREST: NONE DECLARED.

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