Background: Rheumatoid arthritis (RA) is a chronic inflammatory disease in which an abnormal body composition was reported to be highly prevalent. (1) Bioelectrical phase angle (PhA) is a measure of the relationship between electric resistance and reactance obtained via bioelectrical impedance analysis (BIA). (2) As an indicator of cellular health, PhA has been described as a predictor of worse clinical outcome and higher mortality in various conditions. (3) Since there is evidence that PhA is related to disease progression and prognosis when considering chronic inflammatory conditions, a lower PhA may also be considered an indicator of a worse prognosis in RA. (1)

Objectives: To study the association between PhA, functional status and impact of disease in RA patients.

Methods: Observational and cross-sectional study, including 53 patients with RA diagnosis according to the ACR/EULAR 2010 criteria. Each patient demographic data was recorded, and body composition, including PhA by BIA, was obtained. BIA was performed using Bodystat QuadScan 4000 equipment. Functional status and impact of disease were assessed using the Health Assessment Questionnaire (HAQ) and the Rheumatoid Arthritis Impact of Disease (RAID) scores, respectively. PhA was stratified by tertiles (lowest, middle and highest) to create groups of patients. Statistical analysis was performed using student's t-test (IBM SPSS version 26) for comparisons between groups.

Results: A total of 53 patients with RA (81.1% women) with an average age of 62.2 ± 10.2 years were assessed. Mean PhA was $5.8 \pm 1.7^\circ$. A PhA lower than 5.2° (lowest tertile) was recorded in 17 patients; A PhA ranging from 5.2° to 6.0° (middle tertile) was observed in 18 patients; A PhA greater than 6.0° (highest tertile) was seen in 18 patients. Mean HAQ score was 1.43 ± 0.61 in the lowest tertile, 0.85 ± 0.57 in the middle tertile and 0.67 ± 0.57 in the highest tertile. Mean RAID score was 5.86 ± 1.69 in the lowest tertile, 4.73 ± 2.05 in the middle tertile and 3.00 ± 1.94 in the highest tertile. The statistical analysis showed significant differences in both HAQ and RAID scores between the lowest and the highest tertiles ($p=0.001$ and $p<0.001$, respectively). Significant differences were also found between the lowest and the middle tertile for HAQ score ($p=0.007$) and between the middle and the highest tertile for RAID score ($p=0.017$).

Conclusion: In our cohort a lower PhA was significantly associated with higher HAQ and RAID scores, indicating higher disease impact and higher disability in RA patients with lower PhA. These results support the hypothesis that PhA may be investigated as a possible indicator of disease prognosis in RA.

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Rheumatoid arthritis - comorbidity and clinical aspects

POS0505

DEPRESSION, ANXIETY AND STRESS AMONG OUTPATIENTS WITH RHEUMATOID ARTHRITIS FOLLOWED UP AT A TERTIARY CARE HOSPITAL IN SRI LANKA; A CROSS-SECTIONAL STUDY

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Background: Increased prevalence of depression, anxiety and stress have been shown among patients with rheumatoid arthritis. Patient and disease characteristics and psychosocial factors associated with these mental health issues are shown to vary among different populations. South Asian studies comprehensively assessing the prevalence and associations of these factors are lacking.

Objectives: To determine the prevalence of depression, anxiety and stress among patients with rheumatoid arthritis and to identify associated patient and disease factors.

Methods: A cross-sectional study was carried out among outpatients at three specialized rheumatology clinics at the National Hospital of Sri Lanka. Individuals with a diagnosis of rheumatoid arthritis were recruited consecutively. An interviewer-administered questionnaire was used to record sociodemographic and clinical data including the Clinical Disease Activity Index. A score 10.1–22.0 was taken as moderate and more than 22.1 was taken as high disease activity. The self-administered Depression, Anxiety, Stress Scale-21 (DASS-21) tool which has been validated for the Sri Lankan population was used. Statistical analysis was done using descriptive analysis and Chi-Square.

Results: A total of 118 participants were recruited in this study. Majority of the participants ($n=105$) were female and had received a secondary school education (70%). Based on the CDAI assessment most were in the moderate (39%) and high disease activity groups (36%). Prevalence of Depression, Anxiety and Stress were found to be higher than the baseline level of 1% in the general population. A breakdown of the prevalence is shown in Figure 1. Further analysis of each arm, depression anxiety and stress were carried out independently excluding the non-responders. A higher level of prevalence of all three parameters was observed with the deterioration of functional status evidenced by the inability to walk and grip a ball firmly in the palm without it falling. Prevalence of depression was associated with age > 60 years ($p=0.035$), increased disease activity ($p=0.004$) and the loss of their job due to poor health ($p=0.01$). Higher prevalence of anxiety was associated with increased disease activity ($p=0.023$). A marked increase in stress level was associated with loss of the job ($p=0.009$) and morning stiffness > 60 minutes ($p=0.001$). Several Pre-existing co-morbidities were associated with depression and anxiety (Table 1). No association was observed between stress and pre-existing comorbidities.

Figure 1. Prevalence of depression, anxiety and stress among patients with rheumatoid arthritis

Table 1. Correlation of comorbidities with depression and anxiety.

Associated Factors		Depression		Anxiety	
		Yes	No	Yes	No
Diabetes Mellitus (%)	Identified	18(72)	07(28)	16(66)	08(34)
	Not Identified	37(45)	46(55)	46(55)	38(45)
P-value		0.016		0.298	
Ischaemic heart disease (%)	Identified	14(82)	03(18)	14(78)	04(22)
	Not Identified	41(45)	50(55)	48(53)	42(47)
P-value		0.005		0.056	
Dyslipidaemia (%)	Identified	20(67)	10(33)	25(78)	07(22)
	Not Identified	35(45)	43(55)	37(49)	39(51)
P-value		0.042		0.005	

Conclusion: Prevalence of depression, anxiety and stress among patients with rheumatoid arthritis is higher than the general population. Functional deterioration, disease activity and presence of co-morbidities are associated with these mental health issues. These can guide clinicians to screen high risk individuals for the mental health issues so that measures to relieve them would potentially improve quality of life and disease outcome.

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