

## **Abstract**

**Title:** Sexual Dysfunction and Pelvic Floor Dysfunction in Patients with Systemic Rheumatic Diseases

**Objectives:** To assess sexual functions, quality of life and pelvic floor function in female patients with Systemic Sclerosis (SSc) and Idiopathic Inflammatory Myopathies (IIM) compared to age-/sex-matched healthy controls (HC).

**Methods:** In total, 41 women with SSc (mean age: 50.9, disease duration: 5.8 years), who fulfilled the ACR/EULAR 2013 classification criteria for SSc, 41 healthy controls (mean age: 50.9) without rheumatic diseases, 22 women with IIM [mean age: 55.1, disease duration: 7.9 years, dermatomyositis (DM, 8)/ polymyositis (PM, 10)/ necrotizing myopathy (IMNM, 3)/ inclusion body myositis (IBM, 1)], who fulfilled the Bohan/Peter 1975 diagnostic criteria for DM/PM, and 22 healthy controls (mean age: 55.1 years) filled in 12 well-established and validated questionnaires assessing sexual function/quality of life, pelvic floor function, fatigue, physical activity and depression.

**Results:** Compared to HC, patients with SSc and IIM had significantly higher prevalence and greater severity of sexual dysfunction (FSFI, BISF-W: in all subscales as well as total scores), dysfunction of pelvic floor (PISQ-12), and worse sexual quality of life (SQoL-F). Worse scores in SSc patients were associated with higher disease activity [ESSG activity index: SQoL-F ( $r=-0.364$ ,  $p=0.0443$ )], greater fatigue [all three questionnaires FSS/FIS/MAF correlated negatively with FSFI, BISF-W], more severe depression [BDI-II: FSFI ( $r=-0.553$ ,  $p=0.0002$ ), BISF-W ( $r=-0.514$ ,  $p=0.0007$ )], deteriorated quality of life [SHAQ: FSFI ( $r=-0.536$ ,  $p=0.0003$ ), BISF-W ( $r=-0.563$ ,  $p=0.0001$ ), PFIQ7 ( $r=0.380$ ,  $p=0.0142$ )], and worse ability to perform physical activities [HAP: FSFI ( $r=0.407$ ,  $p=0.0082$ ), BISF-W ( $r=0.409$ ,  $p=0.0078$ )]. Worse scores in IIM patients were associated with elevated muscle enzyme levels [lactate dehydrogenase: FSFI ( $r=-0.524$ ,  $p=0.0123$ ), BISFW ( $r=-0.528$ ,  $p=0.0115$ )], greater fatigue [FIS: FSFI ( $r=-0.434$ ,  $p=0.0438$ ), BISF-W ( $r=-0.488$ ,  $p=0.0211$ )], more severe depression [BDI-II: PISQ-12 ( $r=0.474$ ,  $p=0.0258$ )], deteriorated quality of life [HAQ: PISQ-12 ( $r=0.476$ ,  $p=0.0252$ )], and worse ability to perform physical activities [HAP: FSFI ( $r=0.437$ ,  $p=0.0417$ ), BISF-W ( $r=0.451$ ,  $p=0.0351$ ), PISQ-12 ( $r=-0.494$ ,  $p=0.0195$ )].

**Keywords:** Female Sexual Dysfunction, Systemic Sclerosis, Idiopathic Inflammatory Myopathies, Pelvic Floor Dysfunction