estimating burden of cocaine or hallucinogen use disorders in common Musculoskeletal diseases (MSDs) are lacking.

**Objectives:** To assess national time-trends in cocaine use and hallucinogen use disorders in people with MSDs.

**Methods:** This study used the U.S. National Inpatient Sample (NIS), a de-identified national all-payer inpatient health care database (https://www.hcup-us.ahrq.gov/nisoverview.jsp) from 1998-2014. The NIS is a 20% stratified sample of hospital discharges in the U.S. It is commonly used to derive national estimates of hospitalization and outcomes. Cocaine or hallucinogen use disorder hospitalization was defined in a validated approach as the presence of the following International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) diagnostic codes: cocaine use disorder, 304.2x, or 305.6x; and hallucinogen use disorder, 304.5x or 305.3x; hospitalizations for drug use in remission, drug counseling, rehabilitation or detoxification were excluded, as in previous studies. MSDs were identified based on the respective ICD-9 codes, a validated approach (5-9), in non-primary position: Gout: 274.xx; rheumatoid arthritis (RA): 714.xx; Fibromyalgia: 729.1; osteoarthritis (OA): 715.xx; or low back pain (LBP): 724.

**Results:** In 1998-2000, the highest frequency of cocaine use hospitalizations was in people with LBP: LBP (n=5,914), followed by OA (n=4,931), gout (n=2,093), RA (n=2,026), and fibromyalgia (n=1,820). In 2013-2014, the order changed slightly with OA (n=22,185), followed by LBP (n=16,810), gout (n=10,570), RA (n=8,975), and fibromyalgia (n=6,680). Respective rates per 1 million U.S. hospitalizations in 2013-2014 and the relative increase from 1998-2000 to 2013-2014 were: Gout, 10.2 (increase, 4.1-fold); OA, 21.4 (3.5-fold); fibromyalgia, 5.48 (2.5-fold); RA, 8.66 (3.4-fold); and LBP, 16.22 (1.8-fold; Figure 1).

In 1998-2000, hallucinogen use disorder hospitalizations were as follows: LBP (n=176), followed by OA (n=63), RA (n=42), gout (n=41) and fibromyalgia (n=10; cells with frequency of 10 of fewer are reported as <10 per NIS guidance). In 2013-2014, the frequency order was the similar, with the highest numbers for LBP (n=525) followed by OA (n=400), RA (n=395), gout (n=135) and fibromyalgia (n=125). Respective rates per 1 million US NIS hospitalizations in 2013-2014 and the relative increase from 1998-2000 to 2013-2014 were: Gout, 1.02 (increase, 4.1-fold); OA, 21.4 (3.5-fold); fibromyalgia, 5.48 (2.5-fold); RA, 8.66 (3.4-fold); and LBP, 16.22 (1.8-fold; Figure 1).

**Conclusion:** This study confirmed an increasing rate of both, cocaine use and hallucinogen use disorder hospitalizations in people with 5 MSDs over a 17-year period from 1998-2014 in the U.S.

**Figure 1.** Time-trends in the rates of hospitalization with cocaine use and hallucinogen use disorder (A), non-home discharge (B), and in-hospital mortality (C) per 100,000 NIS hospitalization claims. The x-axis shows rate per 100,000 NIS hospitalization claims and the y-axis the study periods.

**Acknowledgements:** I thank John D. Cleveland, MS of the University of Alabama at Birmingham for performing data analyses according to the protocol.

**Disclosure of Interests:** Jasvinder Singh Shareholder of: JAS owns stock in Simply Speaking. JAS is on the speaker's bureau of Simply Speaking. JAS is a member of Focus forward, Navigant consulting, Spherix, Practice Point communications, the majority of patients were female (90%). The mean disease duration was 10 years (1-41 years). More than 50% of the patients were diagnosed with RA, 7 with SpA and 6 with SSC. Of 31 patients, 48% (15/31) had clinical signs of NP and of those, neurophysiological examination showed 14 axonal 2, demyelinating and 4 mixed types. A combined LFNP and SFNP was present in 35% (11/31) of the patients. In 4 patients, only a SFNP was detectable, and in only two patients, no NP was detectable.

**Conclusion:** NP was detectable in 94% (29/31) of the RMD patients, with LFNP predominating. This high proportion of NP in RMD suggests a surprisingly high coincidence of both diseases.

**Table 1.** Subtypes of NP in RMD

<table>
<thead>
<tr>
<th>Subtype</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axonal NP</td>
<td>14/31 (45%)</td>
</tr>
<tr>
<td>Demyelinating NP</td>
<td>2/31 (6%)</td>
</tr>
<tr>
<td>Mixed axonal and demyelinating NP</td>
<td>4/31 (12%)</td>
</tr>
<tr>
<td>Sensory NP</td>
<td>9/31 (28%)</td>
</tr>
<tr>
<td>Sensory/motor NP</td>
<td>5/31 (16%)</td>
</tr>
<tr>
<td>Motor NP</td>
<td>1/31 (3%)</td>
</tr>
</tbody>
</table>

**Disclosure of Interests:** None declared.

**DOI:** 10.1136/annrheumdis-2021-eular.3931

**Reference:**

Hassell R, Tschernatsch2, T. Neumann1, T. Gernitt4, J. Allendörfer2, T. Fuchk2, A. Schänzer2, U. Müller-Ladner1. Justus-Liebig-University Giessen, Campus Kerckhoff, Department of Rheumatology and Clinical Immunology, Bad Nauheim, Germany; Justus-Liebig-University Giessen, Department of Neurology, Giessen, Germany; Gesundheitszentrum Wetterau, Department of Neurology, Bad Nauheim, Germany; Asklepios Hospital, Department of Neurology, Bad Salzhausen, Germany; Heinrich-Heine-University Dusseldorf, Department of Neurology, Giessen, Germany; Justus-Liebig-University Giessen, Institute of Neuropathology, Giessen, Germany.

**Background:** In rheumatic and musculoskeletal diseases (RMDs), peripheral neurons can be affected, which can result in sensory symptoms like pain, burning, tingling, numbness and motor symptoms like muscle-atrophy or even paresis. More detailed knowledge about the prevalence and the cause of neuropathy (NP) in RMD are urgently needed, especially as RMD patients may develop different subtypes of NP.

**Objectives:** The aim of this project was to assess the prevalence and the individual types of NP in rheumatoid arthritis (RA), spondyloarthritis (SpA) and systemic sclerosis (SSc) patients, and to elucidate the clinical, neurophysiological and neuropathologic features of associated NP.

**Methods:** Baseline questionnaires and neurological and physical examination were used to elucidate the presence of neuropathic pain and autonomic dysfunction. Laboratory tests were performed to exclude other causes for NP. Electrophysiological tests were performed to differentiate demyelinating from axonal large fiber (LFNP)’s. Additionally, skin biopsies were used to detect an involvement of small fibres (SF).

**Results:** A total of 31 patients (median age 64 years (range 43-75)) were included. The majority of patients were female (90%). The mean disease duration was 10 years (1-41 years). More than 50% of the patients were diagnosed with RA, 7 with SpA and 6 with SSC. Of 31 patients, 48% (15/31) had clinical signs of NP and of those, neurophysiological examination showed 14 axonal 2, demyelinating and 4 mixed types. A combined LFNP and SFNP was present in 35% (11/31) of the patients. In 4 patients, only a SFNP was detectable, and in only two patients, no NP was detectable.

**Conclusion:** NP was detectable in 94% (29/31) of the RMD patients, with LFNP predominating. This high proportion of NP in RMD suggests a surprisingly high coincidence of both diseases.