

# Prevalence of shoulder pain and associated factors in persons with spinal cord injury across five countries

Wedege P<sup>1</sup>, Gonzalez Viejo MA<sup>2</sup>, Arora M<sup>3,4</sup>, Avellanet M<sup>2</sup>, Baricich A<sup>5</sup>, Gimigliano F<sup>6</sup>, Kyriakides A<sup>7</sup>, Middleton J<sup>3,4</sup>, Rapidi C-A<sup>8</sup>, **Ström V**<sup>1</sup>

<sup>1</sup> Sunnaas Rehabilitation Hospital, Nesodden, Norway

<sup>2</sup> Spinal Cord Injury Unit, University Hospital Vall d'Hebron, Barcelona, Spain

<sup>3</sup> John Walsh Centre for Rehabilitation Research, Kolling Institute of Medical Research, Royal North Shore Hospital, Australia

<sup>4</sup> Sydney Medical School - Northern, Faculty of Medicine and Health, The University of Sydney, Australia

<sup>5</sup> Physical and Rehabilitation Medicine, Department of Health Sciences, Università del Piemonte Orientale viale Piazza d'armi, Novara, Italy

<sup>6</sup> Department of Physical and Mental Health, University of Campania "Luigi Vanvitelli", Naples, Italy

<sup>7</sup> Spinal Cord Injuries Unit, University of Patras, Patras, Greece

<sup>8</sup> PRM Department, General Hospital "G.Gennimatas", Athens, Greece

## INTRODUCTION

Shoulder pain is a common and significant health problem affecting functioning, activity and participation of persons with spinal cord injury (SCI). Reported prevalence rates vary considerably, possibly due to small sample sizes, highlighting the need to investigate shoulder pain within larger sample sizes and across countries. The main objective was to describe the three months prevalence of self-reported shoulder pain across five countries and associations with SCI-related and sociodemographic factors.

## METHODS

We analysed cross-sectional data from community-dwelling adults with traumatic or nontraumatic SCI in Australia, Greece, Italy, Norway and Spain, participating in the International Spinal Cord Injury community survey (InSCI) between 2017 and 2019. We based the prevalence of shoulder pain on questions derived from the Standardized Nordic Questionnaire for shoulder and neck symptoms.

## RESULTS

Of the 3011 respondents, 72% were male, and most had paraplegia of traumatic origin. The mean age was 56.5 + 15 years, and the average time since injury 15.8 + 12 years. The three months prevalence of shoulder pain was 58.6% (95% confidence interval (CI) 56.7%-60.6%), ranging from 48.7% (42.7-54.7) in Spain to 63.1% (60.3-65.8) in Australia. Adjusted odds ratios (OR) revealed significant associations with shoulder pain for complete tetraplegia (OR 2.06, 95% CI 1.45-2.94), being a smoker (1.55, 1.21-1.99), and being female (1.43, 1.17-1.75).

## CONCLUSION

High prevalence rates of chronic shoulder pain was found among community-dwelling adults with SCI across countries. Injury severity, gender and smoking status exhibited significant associations with shoulder pain. The findings calls upon investment in appropriate management and preventative measures.