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Current assessment in AS/Axial Spondyloarthropathy and the importance of a biopsychosocial approach

BSR The British Society for Rheumatology

BHPR British Health Professionals in Rheumatology

Aim

- Highlight the potential impact of issues of social and work status, comorbidity and lifestyle on a person's life
- Outline the currently most utilised outcome measures in clinical practice in the UK
- Discuss the implication that psychological status may be influencing a person's perception of their disease status.
- To introduce the concept of a biosychosocial approach to assessment in AS/Axial SpA in routine clinical care

Impact of AS/Axial SpA

- AS/axial SpA is responsible for substantial direct and indirect socioeconomic costs, and work disability [1,2,3] and has a significant impact on quality of life [4,5]
- People with AS are less likely to be married and more likely to be divorced, and women with AS are less likely to have children than their healthy counterparts [6]

1. Sieper,J et al Ann Rheum 2002 Dis 61(sup III): iii8-iii18, 2002.
2. Boonen, A, et al. Annals of the Rheumatic Diseases 2001; 60 no 11:1033-40
3.Boonen, A, et al Ann Rheum Dis 2002; 61:429-37
4. Ward, M. et al Arthritis Care and Research,1999;12: 247-55
5.Haywood, K et al. The Journal of Rheumatology 2003; 30:764-73,
6. Ward MM, et al. Arthritis Rheum 2008 Apr 15; 59: 497e503

Impact of AS/Axial SpA - Work

- Withdrawal from work is three times more common in people with AS than in the general population increasing from 5% during the first year of diagnosis to over 20% at 10 years and 30% at 20 Years [7, 8]
- One-third of hospital attenders with AS give up work before retirement age and others modify or reduce their work [9]
- Psychosocial implications of AS and the effect that it has on the ability to remain in employment with work disability associated with being older, longer disease duration, lower educational standards, co morbidity, greater physical impairment, pain, fatigue, stiffness, anxiety, depression and lower self-esteem [9]
- Leads to substantial personal and also societal costs [10] which rise substantially with decreasing function [11]

7. Sieper, J. Ann Rheum 2002 Dis 61(sup III): iii8-iii18, 2002.
8. Boonen, A, Annals of the Rheumatic Diseases 2001; 60 no 11:1033-40
9. Barlow JH, Arthritis Rheum 2001 Oct; 45: 424e29
10. Boonen A, J Rheumatol Suppl 2006 Sep; 78: 4e11
11.Kobelt G, J Rheumatol 2006 Feb; 33: 289e95.

Smoking and AS/Axial SpA

- Increased risk of severe disease in patients with axial spondyloarthritis and psoriatic arthritis (PsA) who are or were smokers [12,13,14]
- Associated with an earlier onset of back pain, higher disease activity, worse functional status and quality of life, more frequent inflammation of the sacroiliac joints and spine as assessed by MRI, and more frequent structural lesions of the sacroilliac joints and spine as assessed by radiographs using the modified SASSS [12]
- Cardiovascular diseases occur more frequently in people with elevated C-reactive protein [15]
- The role of rheumatologists is to inform their patients about these facts and the risks associated, and to encourage patients to quit smoking [16]

12. Chung HY, Ann Rheum Dis. 2011
13. Li W, Han J,Ann Rheum Dis -2011
14.Poddubnyy D, Arthritis Rheum. 2011
15. He LP, Heart 2010;96:339-46.
16. Braun, J,,Downloaded from ard.bmj.com on January 2013

Osteoporosis and AS/Axial SpA

- Low bone mineral density (BMD) and bone loss has been well documented in the spine and hips of patients with AS, from early on in the disease [17]
- In early SpA patients, a high frequency (47%) of low BMD in femur as well as in lumbar spine. Low BMD was associated with male gender and decreased functional capacity emphasising the need for more alertness for osteoporosis and osteopenia in spondylarthropathy patients at an early stage of the disease [18]

17. Roux, C. Osteoporosis in inflammatory joint diseases 2011, Volume 22, 2:421-33
18. van der Weijden,Clin Rheumatol 2011; 30:497-503

Osteoporosis and spinal fracture risk

- Bone loss has been demonstrated in the hip, and has been associated with vertebral fractures in AS patients [19,20]
- Ankylosed spine is prone to fracture after minor trauma due to its changed biomechanical properties [21]
- Patients with ankylosing spondylitis (AS) have a fourfold fracture risk during their lifetime compared to unaffected individuals [22,23]

19. Baek, Rheumatol Int 2005; 26: 30-34
20. Lange, U Osteoporosis Int 2005; 16:12:1999-2004
21. Westerveld,L, Eur Spine J 2009; 18:145-56
22. Finkelstein JA, Spinal Cord 37:444-447
23. Young JS, Paraplegia 1977: 15:133-146

Psychological status in AS

- Despite the stereotypical view of AS patients being well adjusted psychologically, they may also be susceptible to periods of psychological distress during the course of the disease [25]
- One third of AS patients within a population of 129 men and 48 women had depressive symptoms, women were more susceptible to depression than men [25]

25. Barlow, J, Arthritis Care and Research 1993; 6, no 1:45-51
26. Brionez, T, Arthritis Research & Therapy 2009, 11:R182 (doi:10.1186/ar2874)

Psychological status in AS

- Arthritis helplessness and depression accounted for significant variability in self-reported disease activity beyond clinical and demographic variables in patients with AS [27]
- Higher baseline disease activity predicted greater functional limitations at 12 months through helplessness and depression suggesting that helplessness and depression may constitute future treatment targets in reducing functional limitations in patients with AS [28]
- Psychological status had close interaction with disease activity and quality of life in patients with AS [29]

26. Brionez, T, Arthritis Research & Therapy 2009, 11:R182 (doi:10.1186/ar2874)
27. Brionez, T, The Journal of Rheumatology 2010 vol. 37 no. 4 829-34
28. Jang, J, Rheumatology 2011: 50 (11): 2087-92
29.Baysal, O, Rheumatology International: 2011, Volume 31,6, 795-800

Psychological status in AS

Martindale et al 2006

- Disease status scores in AS correlated significantly with anxiety, depression, internality and health status
- Interpretation of AS disease scores should take an account of psychological status and the choice of measures used
- There are important potential applications in AS management and monitoring, including the identification of patients for biological therapies.

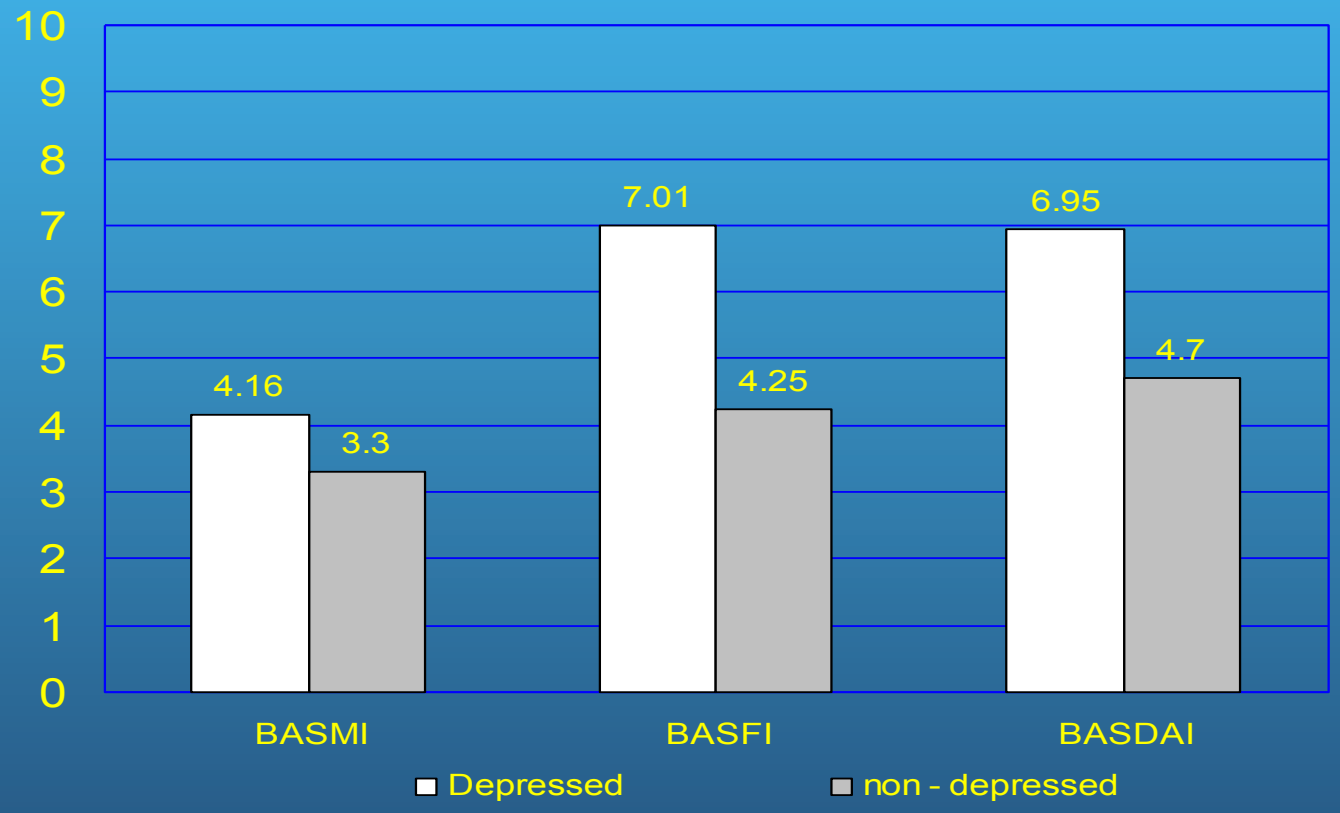
30. Martindale,J, Rheumatology 2006; 45; 1; 1288-1293

Clinical scores correlate with psychological scores: assessment 1 data

	BASMI	BASFI	BASDAI
Anxiety	rs = 0.426 ***	rs = 0.602 ***	rs = 0.581 ***
Depression	rs = 0.431 ***	rs = 0.611***	rs =0.637***
Internality	rs = -0.246 *	rs = - 0.233 *	rs = - 0.348 ***

Key : * p <0.05, **p <0.01, p ***<0.001

BASFI and BASDAI, but not BASMI, significantly higher in clinically depressed subgroups – assessment 1 data



Assessment

Looking Ahead (NASS, 2010): Recommendation 7

People with AS should be followed up regularly and have ready access to expert reassessment

- Initial assessment – comprehensive clinical assessment including disease activity scores, functional assessments, metrology indices and imaging
- Re-evaluation periodically by health specialist with expertise in AS, under supervision of a consultant rheumatologist and serial measures recorded.
- Periodic assessments of bone health/osteoporosis, co-morbidities, renal function and cardiovascular risk undertaken

31. NASS. LOOKING AHEAD. Best practice for the care of people with ankylosing spondylitis (AS): 2010: 1014 NASS AS REPAGINATED-2.indd

Current clinical assessment

Self reported:

- **BASDAI** [32]: (0 - 10; 0 = no disease activity, 10 = severe disease activity)
- Spinal VAS : (0 - 10; 0 = no pain, 10 = severe pain)
- **BASFI** [33]: (0 - 10; 0 = full function, 10 = restricted function)
- **ASQoL** [34] or **Easy -QoL** [35]

32. Garrett, S, Journal of Rheumatology 1994; 21:2286-91
33. Calin, A, Journal of Rheumatology 1994: 21:2281-85.
34 Doward, L., Ann Rheum Dis 2003; 62:20-6
35. Haywood, K, J Rheumatol 2010; doi:10.3899/jrheum.091359

Caveats with self reported measures

- There is potential for patients' psychological status to impact on the completion of a self-reported questionnaire - self reported disease activity is subjective in nature and demonstrates a state of mind as well as a level of clinical activity [36]
- There is a limited extent to which patient-reported measures may capture overall disease status in AS - the single item visual analogue scales which make up the BASFI and BASDAI may only provide a limited reflection of the domains, which are represented [37]

36. Kennedy, L.,J Rheumatol 1993; 20:688-92
37 Haywood, K, Rheumatology, 2005; 44:577-86

Metrology

- **BASMI** [38]: (0 -10; 0 = full movement, 10 = minimal movement)

Inter- and intra-rater reliability of the Bath Ankylosing Spondylitis Metrology Index [39]

- Excellent inter-observer and intra-observer reliability, with most of the variability in BASMI scores being between participants
- For repeat assessments of the same participant by the same physiotherapist, differences in BASMI of 1.0 or less are within bounds of error
- Likewise differences of 1.0 or less are within the bounds of error if different physiotherapists perform the assessments
- Only changes above these limits can be confidently interpreted as true clinical changes

38. Jenkinson, T., Journal of Rheumatology 1994; 21:1694-98,
39. Martindale, J,. Clinical Rheumatology: 31, 11 2012 :1627-1631

Ankylosing Spondylitis Disease Activity Score (ASDAS) 1

Parameters used for the calculation of the ASDAS

1. Total back pain (BASDAI question 2)
2. Patient global
3. Peripheral pain/swelling (BASDAI question 3)
4. Duration of morning stiffness (BASDAI question 6)
5. C-reactive protein (CRP) in mg/l [or erythrocyte sedimentation rate (ESR)]

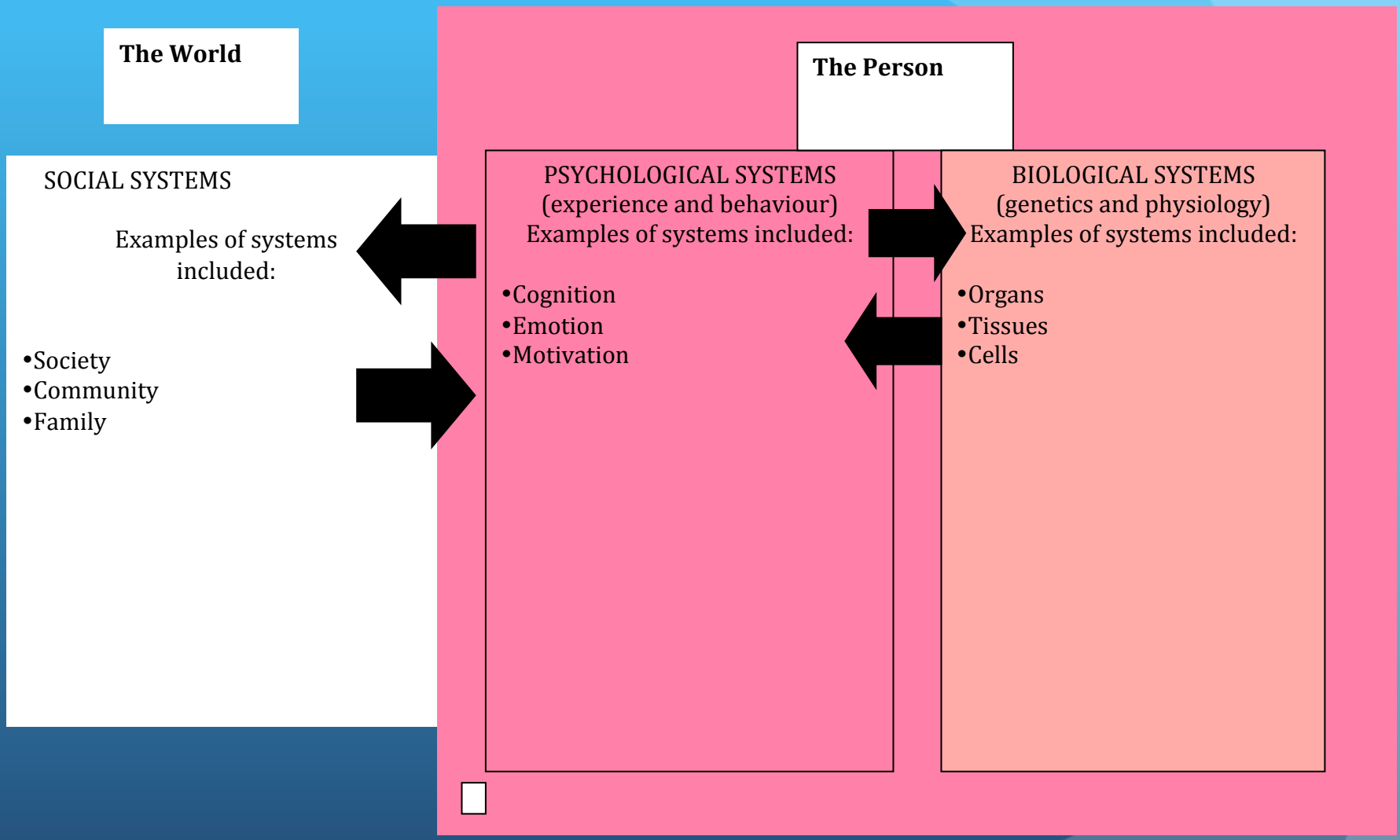
Lukas et al. Ann Rheum Dis 2009;68:18-24 (with permission)
van der Heiijde D et al. Ann Rheum Dis 2009;68:1811-8 (with permission)

Biopsychosocial model of health
Engel 1977

- The task is to understand the human experience of ‘illness’ rather than the more limited construct of ‘disease’ from the perspective of the patient
- Clinicians need to evaluate all the factors contributing to illness rather than giving primacy to biological factors alone.
- Makes it possible to explain why some individuals experience ‘illness’ conditions which others regard as merely ‘problems of living’
- Establish the nature of the problem and to decide whether or not it was best handled in a medical framework.

40. Engel, G. The need for a New Medical Model: a Challenge for Biomedicine. Science, 1977: Vol 196, No 4286: 129 –136

The interplay of the systems in the biopsychosocial model (Sarafino, 2006)



41. Sarafino, E. Health Psychology. Biopsychosocial Interactions, 5th Edition. 2006. John Wiley and Sons

Need for Biopsychosocial approach in AS/Axial SpA?

- More effective therapies seeking optimal management pharmacologically, physically and psychological approaches [42]
- AS has a profound effect on relationships with family members and friends and social life can be severely limited [43]
- AS has profound negative impacts on social life and relationships with friends and family, creates low self esteem, stigma, worry about the future and can lead to changes in mood or personality [44]
- Non pharmacological approaches 'constitute the only hope of improvement when available drugs are ineffective or poorly tolerated' [45]

42. Braun, J, Best Practice and Research Clinical Rheumatology 2002, 16; 631-51
43. Doward, L.C., Ann Rheum Dis 2003; 62:20-6
44. Hamilton-West, K, J Health Psychol 2009; 14:820-30
45. Claudpierre, P, Joint Bone Spine, 72, 283-85

BIOLOGICAL SYSTEMS
The Person

Screening

Weight

BMI

Recent falls/walking aide use

Osteoporosis risk factors

Smoking status

Alcohol consumption

Co morbidity

Current medication – effectiveness

Assessment

BASMI

BASDAI

BASFI

Total spinal pain

Chest expansion

Height

PSYCHOLOGICAL SYSTEMS
The Person

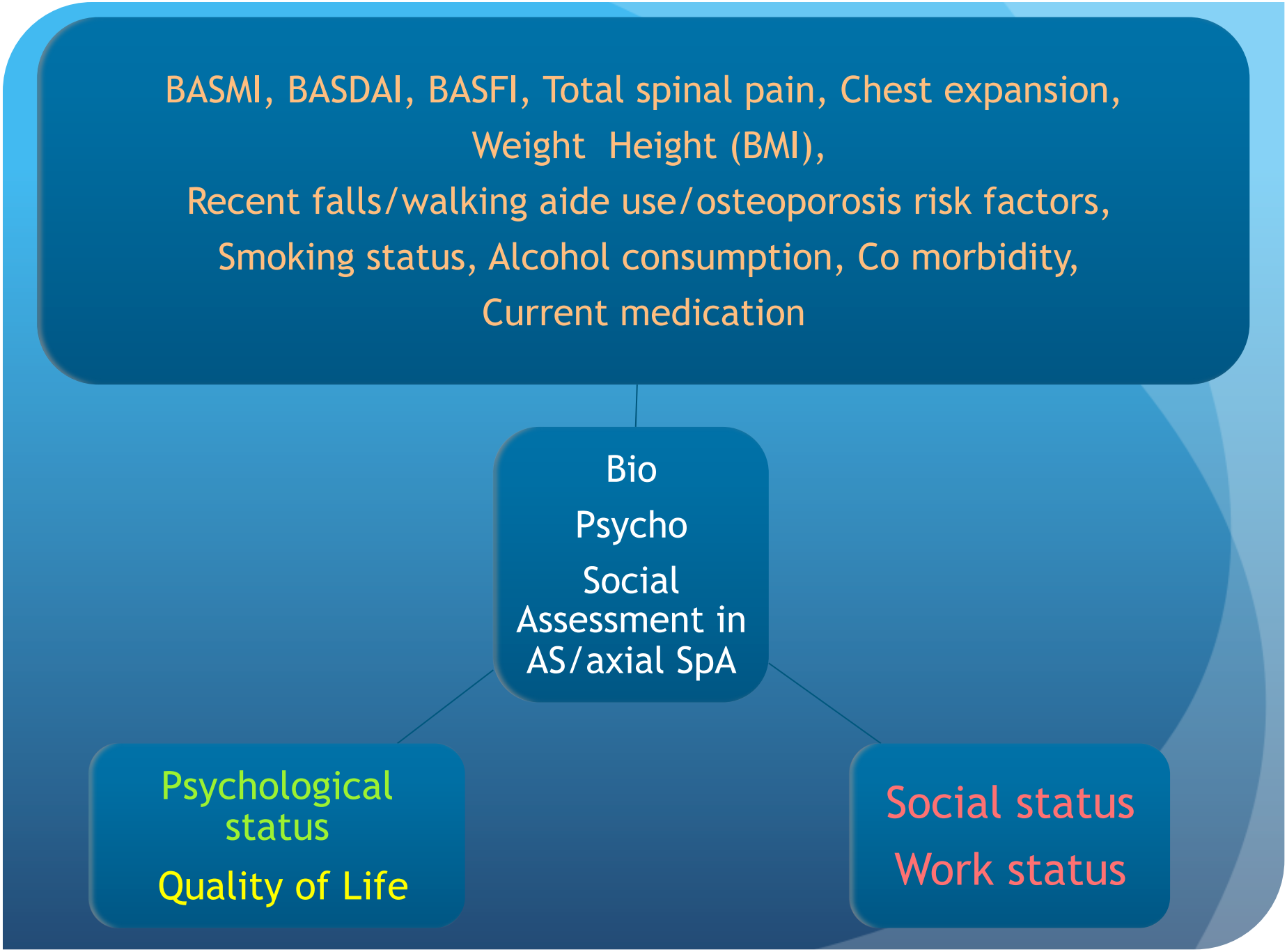
Psychological status (HADS)

Quality of Life (EASI-QoL / ASQoL)

SOCIAL SYSTEMS
The World

Current social status

Current work status


BASMI, BASDAI, BASFI, Total spinal pain, Chest expansion,
Weight Height (BMI),
Recent falls/walking aide use/osteoporosis risk factors,
Smoking status, Alcohol consumption, Co morbidity,
Current medication
Bio
Psycho
Social
Assessment in
AS/axial SpA
Psychological
status
Quality of Life
Social status
Work status

Thank you