Background

Osteoarthritis (OA) is one of the most common diseases impairing physical fitness and mental wellbeing.

In Japan, the prevalence of OA ranges from 10.0% to 62.4% in middle-aged and older individuals.

High rates of depressive disorders are found among patients with OA and are considered to interfere with disease management.

Little is known of the burden of depression on OA in Japan.

Objectives:

The purpose of this study was to investigate the impact of depression on patient reported outcomes among adults with osteoarthritis (OA) in Japan.

To examine the relationship between depression and self-reported health-related quality of life (HRQoL) indices, work productivity and activity impairment and healthcare utilization.

Methods:

Data source: Data were from the 2014 Japan National Health and Wellness Survey (NHWS) (N=10,000), a web-based survey of individuals aged ≥18 years.

Study population: Individuals aged ≥18 years were considered to have OA if they reported being diagnosed with OA by a healthcare provider.

Measures:

Primary predictor: Depression was assessed using the Patient Health Questionnaire (PHQ-9), a validated scale for evaluating the presence of depression. Depression was dichotomized (no/yes) according to none (0-4) or mild (5-9) vs. moderate (10-19) vs. severe (20-27), respectively.

Covariates: Patient socio-demographic characteristics, health status, health behaviors, and OA-related characteristics were identified.

Socio-demographics: gender, age, marital status, education, household income

Health characteristics: Charlson Comorbidity Index (CCI), body mass index (BMI), smoking status, alcohol consumption, and exercise behavior

OA-specific characteristics: length of arthritis diagnosis, number of joints affected, severity of arthritis, frequency of problems with arthritis, and use a prescription for OA

Outcome measures:

HRQoL was measured using the revised Medical Outcomes Study 36-Item Short Form Survey Instrument (SF-36v2):

- Mental component summary (MCS), US-based population norm=50 (SD=10)
- Physical component summary (PCS), US-based population norm=50

Health utilities were derived using the Short-Form Six-Dimension (SF-6D) algorithm. Scores range from 0 to 1, with 1 equivalent to perfect health.

- 8-Factor health profile, Japanese norms: (1) physical functioning, (2) role limitations, (3) bodily pain, (4) general health, (5) vitality, (6) social functioning, (7) emotional role limitations, and (8) mental health

Healthcare resource use (past 6 months)

- Work productivity and activity impairment (WPAI) 6-item validated questionnaire

OA-specific characteristics: length of arthritis diagnosis, number of joints affected, severity of arthritis, frequency of problems with arthritis, and use a prescription for OA

Unadjusted comparisons (Table 2)

- Compared between OA patients and no/mild depression, OA respondents with moderate/severe depression had poorer HRQoL across all indices (p<.001).
- Work productivity and activity impairment (presenteeism, overall work impairment, and activity impairment) was substantially greater among OA patients and moderate/severe depression than for those without (p<.001).

Total past 6 months healthcare provider visits, ER visits and hospitalizations were higher for respondents with moderate/severe depression than for those with no/mild depression (p<.002).

Adjusted comparisons (Figure 3)

- All models were adjusted for age, CCI, marriage, and smoking status.
- Moderate to severe depression was associated with lower scores in all HRQoL indices (p<.001).
- Presenteeism (and overall work impairment) and activity impairment were greater among OA patients with moderate/severe depression than for those with no/mild depression (p<.001). But, there was no significant difference in absenteeism between both groups.
- OA patients with moderate/severe depression had double the total mean healthcare resource use than those with no/mild depression (p<.001).

Results:

Sample demographics and health characteristics

- A total of N=565 respondents were diagnosed with OA, and 63 (11%) of these individuals had moderate or severe depression.
- OA patients with compared to without depression were considerably younger, likely to be employed, less likely to be married or living with a partner, had higher CCI scores, and were more often current smokers (Table 1).
- There were no significant differences for OA-related characteristics between those with and without depression.

Table 1. Sample socio-demographic and health characteristics of patients with OA by depression status

Table 2. Bivariate association between outcomes and depression among patients with OA

Table 3. Adjusted means for healthcare quality of life and depression among patients with OA

Conclusion

- All data were self-reported and thus could be affected by recall bias.
- Causal inference cannot be made due to the cross-sectional study design.
- The NHWS is designed to be broadly representative of the Japanese adult population, however, the OA population may have been selectively underrepresented and may favor younger, healthier adults due to web survey.

References

7. Kelly HK, Zietz DC, et al. The validity and reproducibility of a work productivity and activity impairment instrument.].

Disclosure

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