

Can an educational PowerPoint change an owner's knowledge and awareness of signs of osteoarthritis in their dog and the impact it has on their lifestyle?



Milly E. Wagstaff, S. Elizabeth Roberts:

Animal Health, Behaviour & Welfare Department, Harper Adams University, Shropshire, TF10 8NB, UK

Introduction

Canine osteoarthritis (OA) is a prevalent, progressive joint disease affecting up to 20% of dogs over one year old in the UK¹. It significantly impairs mobility and quality of life, yet early signs are often overlooked by owners, delaying diagnosis and treatment^{2, 3}. Dogs frequently mask pain, and subtle behavioural changes are often misattributed to ageing^{4, 5}.

This study evaluated whether a targeted educational intervention, a pre-recorded PowerPoint presentation, could improve dog owners' knowledge and awareness of OA and its lifestyle implications.

Methods

A qualitative, pre-post intervention design was used. An initial online survey assessed baseline knowledge of OA among 53 UK dog owners. Participants then viewed a 14-minute narrated PowerPoint presentation covering OA pathophysiology, symptoms, risk factors, and treatment options^{3, 4, 5, 6}. Two weeks later, 31 participants (59%) completed a follow-up survey.

Responses were analysed thematically and statistically using Chi-squared tests to assess changes in knowledge and awareness⁷. Responses were also categorised by an independent assessor into 'limited', 'moderate', or 'good' knowledge levels.

Results

- Dog owners were invited to participate in the study. Threequarters (77%) of respondents were female, with the largest age group being 25–34 years. Geographically, 68% were based in the South West.
- Prior to the intervention, most participants demonstrated only a superficial understanding of OA, with limited awareness of causes, symptoms, and treatment options. Post-intervention responses showed marked improvement in depth and breadth of knowledge; scientific terminology was more frequently used, and participants demonstrated a clearer understanding of OA pathophysiology and multimodal treatment strategies. For example, knowledge of OA causes improved from 23% to 61% rated as 'good' (Figure 1).
- Awareness of treatment options also increased significantly, with more participants identifying physiotherapy, hydrotherapy, and environmental adaptations alongside medication. Chi-squared analysis confirmed statistically significant improvements in OA knowledge ($\chi^2 = 0.034$) and treatment awareness ($\chi^2 = 0.01$, $p < 0.05$). Additionally, owners were more likely to identify subtle behavioural signs of OA in their own dogs, with reported "normal activity levels" decreasing from 93% to 81% post-intervention (Table 1).
- The PowerPoint was rated highly by participants, with 91% scoring it 8 or above out of 10 for usefulness. Feedback highlighted its clarity, relevance, and appropriate information density. Some participants suggested supplementary materials such as summary sheets or leaflets to reinforce learning

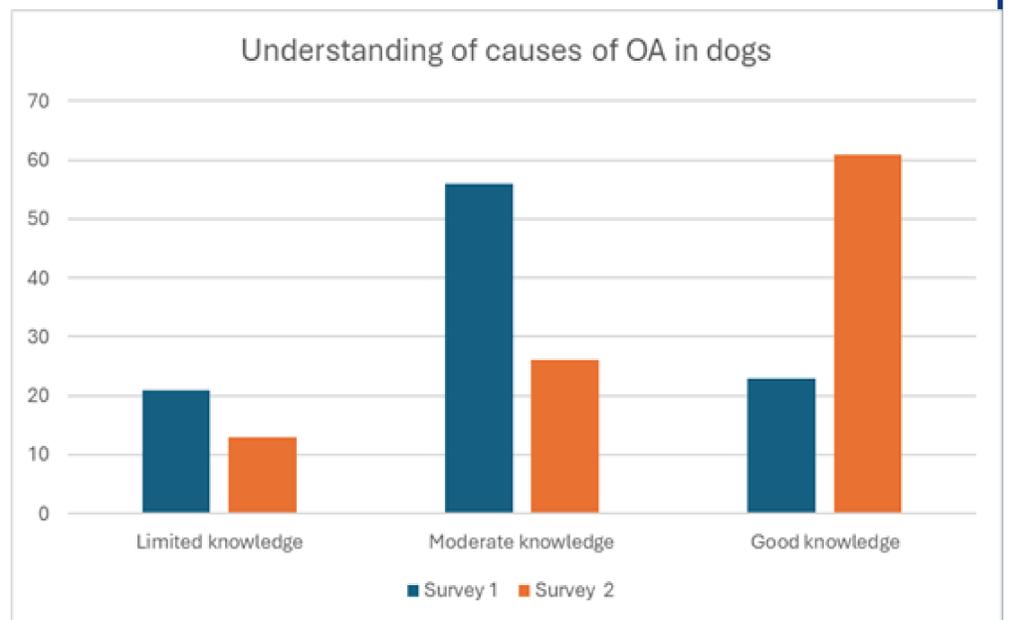


Figure 1: Bar graph showing the improvement in the owners' knowledge of the causes of OA before and after the educational intervention

Table 1: The percentage of participants whose dogs have normal activity levels or not

Normal activity levels?	Survey 1	Survey 2
Yes	93%	81%
No	7%	19%

Discussion/Conclusion

This study demonstrates that a short, targeted online educational intervention can significantly improve dog owners' knowledge and awareness of osteoarthritis. Enhanced understanding may lead to earlier recognition of symptoms, more informed treatment decisions, and ultimately, improved quality of life for affected dogs. These findings support the integration of educational tools into veterinary practice, particularly within nurse-led Geriatric, Mobility, and Weight Management Clinics, and demonstrate how vital a role the veterinary nurse can play in the education of owners. Future research should explore long-term knowledge retention and whether increased owner awareness does translate into earlier veterinary intervention and improved clinical outcomes.

References

1. Waring, N. (2014) 'Canine osteoarthritis: pathophysiology and management', *The Veterinary Nurse*, 5(8), pp. 462–467.
2. Wright, A., Amode, D.M., Cernicchiaro, N., Lascelles, B.D.X., Pavlock, A.M., Roberts, C. and Bartram, D. J. (2022). Identification of canine osteoarthritis using an owner-reported questionnaire and treatment monitoring using functional mobility tests. *Journal of Small Animal Practice*, 63(8), pp.609–618.
3. Anderson, K.L., O'Neill, D.G., Brodbelt, D.C., et al. (2020). Epidemiology, clinical management and outcomes of dogs with osteoarthritis in UK primary care practice. *Veterinary Record*, 187(5), p.68.
4. Mathews K, Kronen PW, Lascelles D, Nolan A, Robertson S, Steagall PV, Wright B, Yamashita K. Guidelines for recognition, assessment and treatment of pain: WSAVA Global Pain Council members and co-authors of this document: *J Small Anim Pract*. 2014 Jun;55(6):E10-68.
5. Moritz Roitner, Klever, J., Reese, S. and Meyer-Lindenberg, A. (2024). Prevalence of osteoarthritis in the shoulder, elbow, hip and stifle joints of dogs older than 8 years. *Veterinary Journal*, 305, pp.106132–106132.
6. Jones, G.M.C., Pitsillides, A.A. and Meeson, R.L. (2022). Moving Beyond the Limits of Detection: The Past, the Present, and the Future of Diagnostic Imaging in Canine Osteoarthritis. *Frontiers in Veterinary Science*, 9.
7. Saunders, M., Lewis, P., & Thornhill, A. (2023). *Research Methods for Business Students*. Pearson; London.