PUBLIC PERSPECTIVES ON THE USE OF AI IN DEMENTIA DIAGNOSIS

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PURPOSE

It is estimated that there are currently 982,000 people with dementia in the United Kingdom with less than 65% having a formal diagnosis.[1] Artificial Intelligence (AI) has the potential to improve the speed and accuracy of diagnostic processes.[2] However, AI's use in healthcare also raises ethical and practical concerns,[3] particularly regarding its role in complex diagnoses, such as dementia, where nuanced judgment is crucial. This study aims to investigate public perceptions of the use of Artificial Intelligence (AI) in dementia diagnosis, in order to inform the development of AI diagnostic imaging tools for clinical settings.

METHODS

An online survey was conducted and completed by members of the general public. The survey explored participants' views on AI's role in diagnosis, trust in AI systems, and preferences for AI-assisted versus AI-led diagnosis. The findings were analysed using descriptive statistics.

DEMOGRAPHICS

There were 231 survey respondents with 36 incomplete responses excluded, leaving 195 responses for analysis. The graphs below demonstrate the distribution of gender (*Fig. 1*), age (*Fig. 2*) and educational background (*Fig. 3*) of the participants.

Figure 1: Gender of Survey Respondents

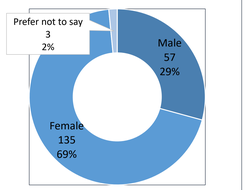


Figure 2: Age of Survey Respondents

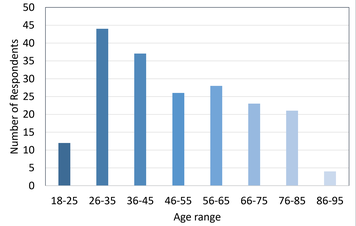
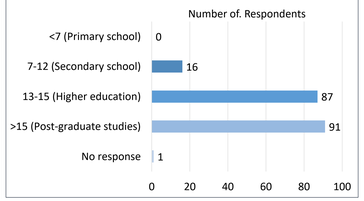


Figure 3: Educational Attainment of Survey Respondents



RESULTS

Fig. 4A demonstrates responses from participants on questions pertaining to trust in AI systems. 50.2% (98/195) of respondents stated they would trust AI if their doctor did, but 26.6% (52/195) did not trust AI at all. Although 63.6% (124/195) believed that AI's ability to analyse complex data could improve dementia diagnosis, 71.8% (140/195) felt that AI could miss complex diagnoses that only a human could make.

Fig. 4B demonstrates responses on questions used to assess participants' views on the use of AI for diagnosis. Analysis of responses showed the majority of participants favoured a hybrid diagnostic model, with 81.5% (159/195) preferring doctors to make diagnoses supported by AI. 58% of respondents (113/195) disagreed with AI being solely responsible for diagnoses.

Fig. 4C demonstrates responses on questions regarding the communication of diagnostic results. Even where AI is used in the diagnostic process, most respondents 88.2% (172/195) stated a preference for having the diagnosis communicated to them by a healthcare professional over an AI generated report favoured by 13.3% (26/195).

Figure 4A: Perceptions of Trust in AI systems

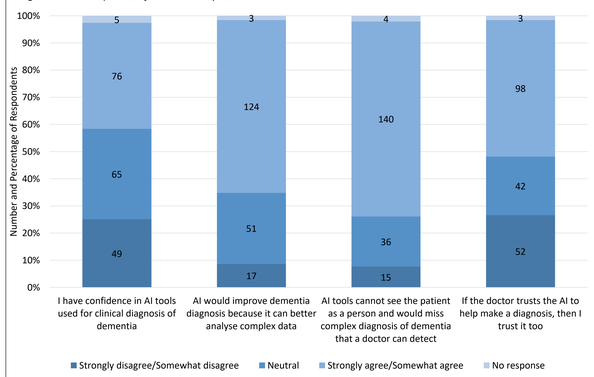


Figure 4B: Perceptions of the Use of AI for diagnosis

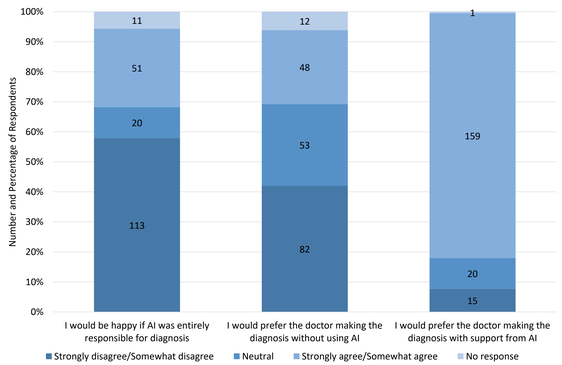
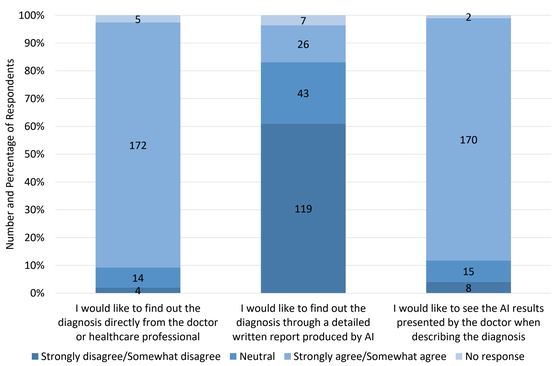


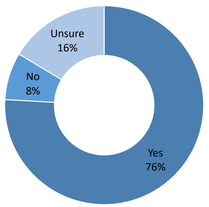
Figure 4C: Communication of Diagnostic Results



CONCLUSION

The findings suggest cautious optimism toward integrating AI into dementia diagnosis, with most participants favouring a doctor-AI collaboration. The survey respondents demonstrated interest in AI's diagnostic capabilities (*Fig. 5*), but also raised concerns about AI's ability to replace human judgment and communicate results. This survey highlights the need for transparency and a patient-centred approach in the development of AI diagnostic tools.

Figure 5: If AI could help predict the risk of developing dementia in the next two years, would you like to know your risk?



Respondents:

QUOTES

"I believe the medical profession should use all tools available…"

"If AI also helps to speed up diagnosis this is beneficial."

"…Paramount to have well trained doctor to help interpret and alleviate concerns."

"I am concerned that the hype around AI is leading to claims being made for it that do not stand up to scrutiny. It's possible it will help, but not guaranteed."

REFERENCES

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