



ATTITUDES TOWARDS BRAIN HEALTH, DEMENTIA RISK REDUCTION AND EARLY DETECTION

Brain Health Scotland 2023 Survey Report



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Introduction

In the spring of 2023, Brain Health Scotland conducted a survey to understand attitudes toward risk reduction and early detection among the Scottish population, offering insights for informed interventions and policies.

Background

Dementia is a global public health concern affecting millions of individuals worldwide, and its impact is projected to almost triple by 2050 [1]. Early diagnosis can enable individuals and their families to plan for the future, make informed decisions, and access the necessary resources and support [2]. However, it is important to acknowledge that the decision to pursue early diagnosis or detection is a complex one, influenced by various factors such as fear of stigmatisation, anxiety about the progression of symptoms, and concerns about potential loss of independence and financial security. In addition to early detection and diagnosis, effective risk reduction strategies play a vital role in mitigating the impact of dementia. It is now recognised that there are modifying lifestyle related risk factors that could reduce the global prevalence by up to 40% [3]. Despite this awareness, risk reduction remains limited in many countries.

Brain Health Scotland has surveyed the Scottish population to explore the public's awareness of dementia, their attitudes towards early detection and risk reduction. By understanding the public's knowledge of dementia risk factors, engagement in brain health activities, and willingness to undergo testing, we aimed to gain valuable insights to develop targeted education, intervention programmes, and policies for comprehensive dementia prevention and care.

Methods

The survey was run online using a Qualtrics online panel in the month of May 2023. It was completed by 945 participants which were screened to confirm they reside in Scotland. The final total sample was 941 participants, and the sample demographics are reported in Appendix 1 (Table 1). The scales developed for this survey on the early detection benefits, stigma and loss of independence were adapted from the "Perceptions Regarding Investigation Screening for Memory in Primary Care" (PRISM-PC) questionnaire [4]. Participant's health literacy was measured using the European Health Literacy Survey Questionnaire [5] and level of motivation to change lifestyle was measured with the MOCHAD-10 (Motivation to Change Behaviour for Dementia Risk Reduction Scale) [14]. The internal reliability of the scales used in the survey is reported in Appendix 1 (Table 2). Thematic analysis was used to analyse the final open-ended question. All the differences in groups reported in this document are statistically significant ($p < 0.05$) and were analysed using regression models and chi-square tests with Bonferroni correction. Limitations of this study are found in Appendix 2.

Key findings

Low awareness of dementia risk reduction:

- Nearly half of the respondents (47%) are unaware that it is possible to reduce the risk of developing dementia.
- This lack of awareness is more common among younger individuals (18 to 34 years old) and those from less advantaged socio-economic backgrounds.

Limited awareness of specific risk factors:

- Many participants showed limited awareness of specific dementia risk factors, such as social isolation, smoking, and a sedentary lifestyle.
- Only one out of three participants were aware of all these three risk factors.

Positive attitude towards brain-healthy activities:

- Participants have a positive attitude towards engaging in activities that promote brain health, particularly mental exercises, physical activity, and social engagement.
- Younger individuals and those from less advantaged socio-economic backgrounds showed less interest in these activities, particularly around healthy eating and sleep hygiene.
- Individuals aged 35-44 were more likely to be generally motivated to change lifestyle compared to those aged 55 years and above.

Willingness to know dementia risk:

- Most individuals expressed a willingness to learn about their risk of developing dementia in the future (85%), with particular interest among younger age groups (25 to 44 years).
- Participants emphasised the need for more accessible information and professional support for dementia risk reduction.

Positive attitude towards early detection and diagnosis:

- Most individuals were open to early detection (88%).
- They recognised early detection and diagnosis benefits, especially in terms of planning for future care, but some expressed concerns about potential loss of independence, particularly related to financial security and, to a lesser extent, stigma.

Uncertainty about onset of dementia symptoms:

- There is uncertainty among participants about when and how dementia symptoms begin.
- About 39% of participants agreed or were uncertain if symptoms of Alzheimer's disease appear suddenly.

Dementia awareness

This section covers the results of our survey questions on dementia awareness, including risk factor awareness.

We asked the participants a series of questions to gauge the general levels of dementia awareness and to highlight potential areas where increased awareness may be needed. The specific questions and answers are provided in the figure below (Figure 1). The two questions with higher amount of uncertainty were relating to risk reduction and early detection. Only half of the participants were aware that dementia risk can be reduced (53%), and only slightly more than half (61%) were aware that symptoms of Alzheimer's disease do not appear suddenly. Women were more likely to be slightly more informed about dementia, and therefore disagree with the statements compared to males (65% vs 60%),

together with respondents with a higher household income, particularly those in the highest category compared to the lowest (79% vs 53%). Participants under 55 years of age, and those who did not have a personal contact with someone with Alzheimer's disease or another type of dementia (48% vs 68%) were more likely to be less well-informed, and therefore agree with the statements. Participants from ethnic minorities (excluding white minorities) were also more likely to agree with the statements compared to the white ethnic group (35% vs 64%).

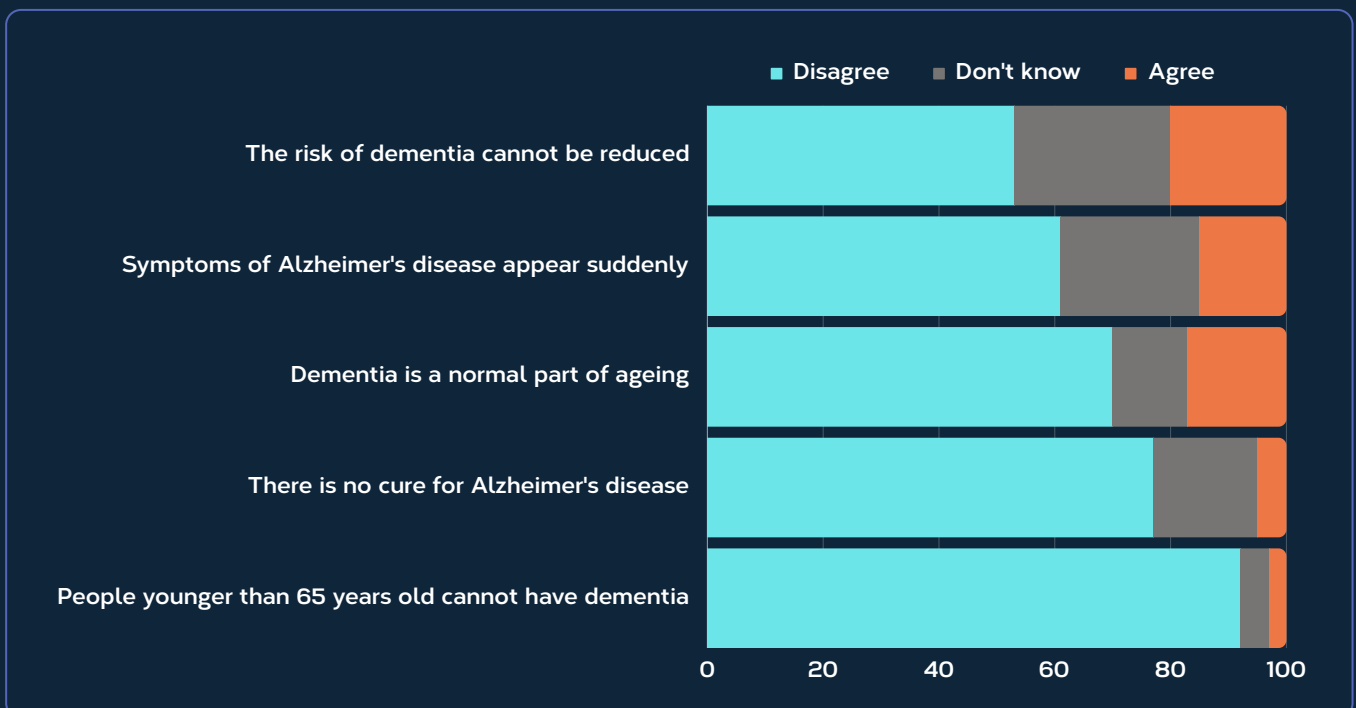


Figure 1. Dementia awareness (% of response stating yes, no or I don't know).

Dementia awareness

Risk factor awareness

Respondents with lower education levels were less likely to agree that dementia risk can be reduced, particularly those with no formal education (43%), compared to those with the highest education level category (64%). Similarly, Respondents with a lower household income were less likely to agree that dementia risk can be reduced, particularly those in the lowest category (46%), compared to those in the highest category (62%).

When asked about three specific factors that can increase the risk of developing Alzheimer's disease or other forms of dementia (social isolation, smoking and being sedentary), only one-third (33%) were aware of all of them, while the remaining participants were divided between being partially aware or not aware (Figure 2).

Participants in age group 25-34 years old were less likely to answer that they knew all the factors listed compared to 55+ age group (29% vs 37%). People living in the second highest household income category were more likely to answer that they knew all the factors listed compared to those in the lowest income category (39% vs 29%). Participants that have never known a person with Alzheimer's disease, or another type of dementia were less likely to answer that they knew all the factors listed compared to those who have (37% vs 23%). Similarly, respondents living in a small town were less likely to answer that they knew all the factors listed compared to those living in rural areas (25% vs 38%).

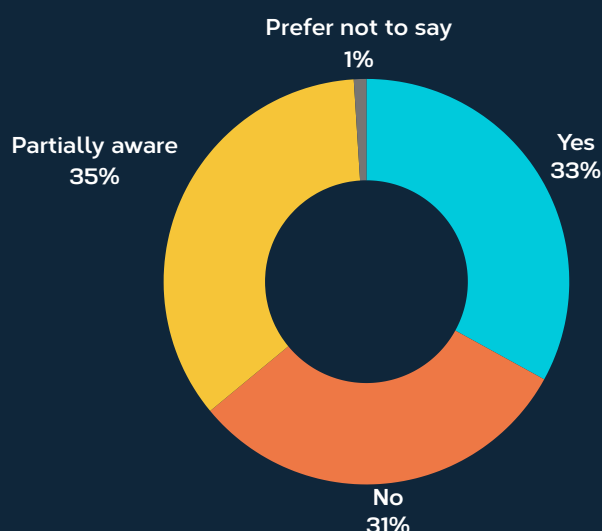


Figure 2. Responses to question "Certain lifestyles and activities such as social isolation, smoking and being sedentary can increase a person's risk of developing Alzheimer disease or other forms of dementia. Did you know this?".

Brain health and risk reduction

This section covers the results of our survey questions on attitude towards dementia risk reduction, including engagement with brain health activities.

We asked the participants whether they would want to know their risk of developing dementia in the future, to which most of the respondents responded “yes” (85%). Among those who answered “yes”, 65% would want to know only if the information is based on lifestyle and genetic factors, and 9% if based on lifestyle factors alone. The remaining 16% were divided between “I don’t know” and “No, regardless of the methods” (Figure 3).

Both men and women showed similar levels of interest in knowing their risk of developing dementia in the future. Respondents in the age groups 25-34 and 35-44 were more

likely to want to know their risk when compared with respondents in the age group 55+ (91% and 89% vs 78%). Participants with a lower education level were slightly less likely to want to know their risk of developing dementia in the future (80% no formal education vs 89% university degree and above).

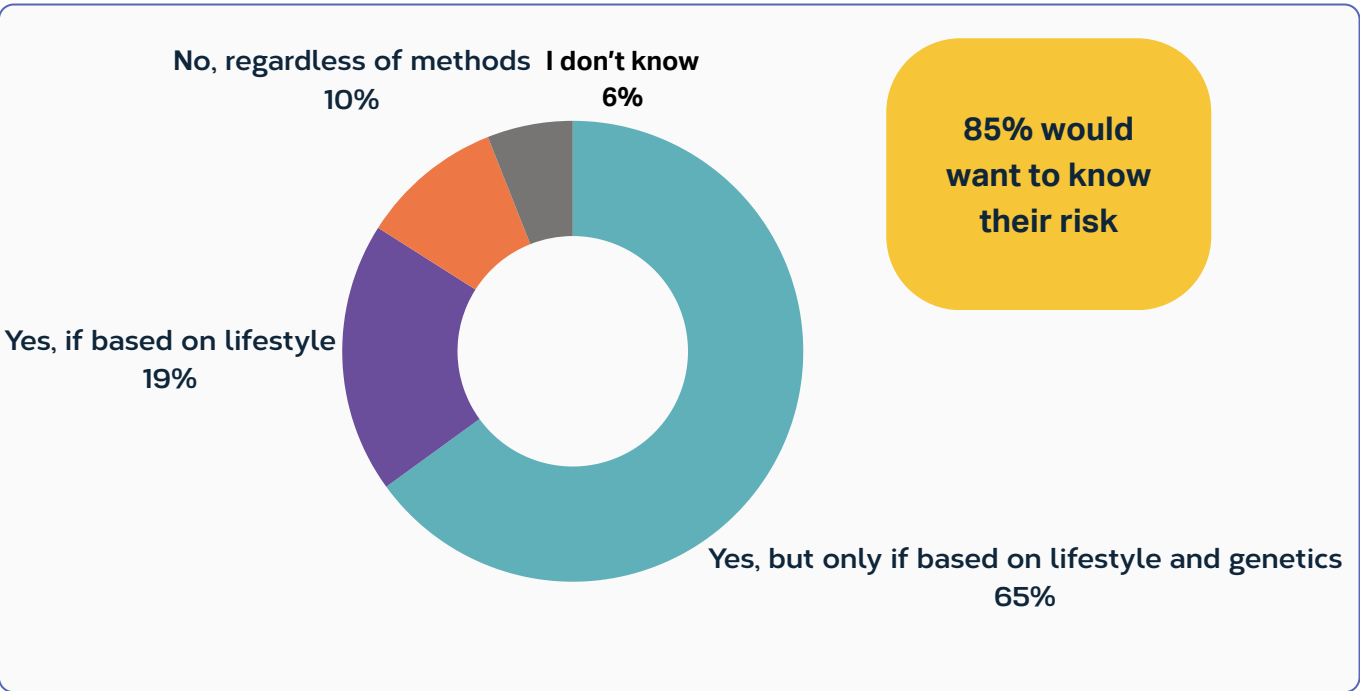


Figure 3. Answers to the question “If doctors could tell you (could have told you) in your middle life (ages 40s - 60s) about your personal risk of developing a form of dementia in the future based on your lifestyle and genetics, would you want to know?”

Brain health and risk reduction

Motivation and engagement with brain health activities

We assessed participants' motivation to adopt lifestyle changes for dementia risk reduction through a series of questions [14]. Our analysis revealed that individuals with personal connections to someone with Alzheimer's disease or another type of dementia were more likely to be 'motivated' (51%) compared to those without such connections (34%). Additionally, participants aged 35-44 showed higher motivation (61%) than those in the 55+ age category (41%), as did women compared to men (53% vs. 39%).

Furthermore, participants with higher education levels were more likely to fall into the 'motivated' category. Specifically, 47% of participants with A levels and higher education were 'motivated,' and the percentage increased to 52% for those with a degree or above, as opposed to 33% among participants with no formal education.

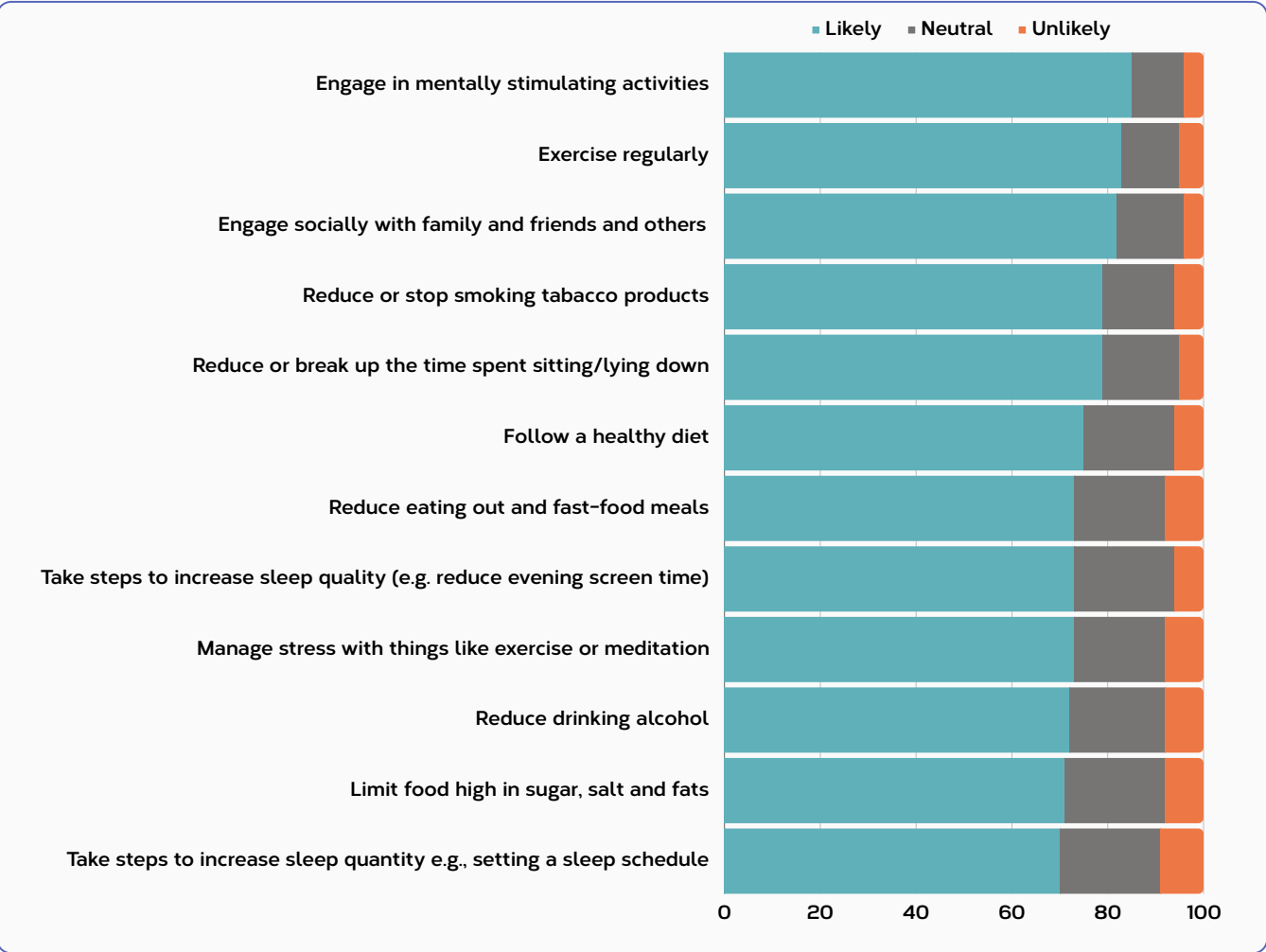


Figure 4. Engagement with Brain Health Activities answers.

Brain health and risk reduction

We asked the participants what activities they are more likely or less likely to engage with to keep their brain healthy (Figure 4). The most frequent answer among the respondents was that they would “likely” engage with the activity, showing a general positive attitude towards engaging in these activities.

The three activities that people were more likely to engage with were:

- Engaging in mentally stimulating activities (85%)
- Exercise regularly (83%)
- Engage socially (82%)

The activities that people were least likely to engage with were:

- Taking steps to increase sleep quantity (70%)
- Limit food high in sugar, salt and fats (71%)
- Reduce drinking alcohol (72%)

The differences between men and women regarding their engagement with brain health activities are relatively minor, yet they can still offer insights. Compared to women, men were less likely to engage with:

- Reducing alcohol intake (64% vs 78%)
- Increase sleep quality (68% vs 77%)
- Managing stress (68% vs 78%)
- Following a healthy diet (70% vs 75%)

Compared to the highest income, people living with the lowest household income category were less likely to:

- Follow a healthy diet (71% vs 76%)
- Engage socially with family and friends (75% vs 89%)
- Reduce smoking tobacco (72% vs 87%)

Respondents in younger age groups were less likely to engage with the activities, particularly 18 – 24 years old compared to the 55+ age group:

- Reducing eating out or fast food (52% vs 76%)
- Reducing HSSF consumption (51% vs 78%)
- Increasing sleep quantity (57% vs 59%)
- Increase sleep quality (57% vs 73%)
- Reducing time spent sitting or lying down (64% vs 86%)
- Engaging in mentally stimulating activities (72% vs 90%)

People in the age groups 25-34 and 35-44 were more likely to engage in reducing alcohol intake compared to 55+ (81% and 79% vs 67%)

Respondents with no formal education were less likely to engage with the following activities compare to respondents with an education in the highest category:

- Increasing sleep quantity (47% vs 74%)
- Following a healthy diet (53% vs 77%)
- Engaging with reducing smoking tobacco (67% vs 83%)
- Managing stress (57% vs 81%)
- Engaging in mentally stimulating activities (77% vs 91%)

Early detection

This section covers the results of our survey questions on attitudes towards early detection, its perceived benefits and concerns.

We asked the participants to imagine that doctors could use a test to determine whether patients have early signs of Alzheimer's disease in their brain, potentially years before the symptoms appear. Based on this information we asked participants to answer a series of questions relating to the potential benefits and the potential loss of independence and stigma of having an early detection. Finally, we asked them whether they would be willing to undergo a similar test in the future if they had the choice.

Early detection benefits

When asked about the benefits of early detection, the most commonly given answer was "somewhat agree" to the described benefit, suggesting a moderate level of agreement with the potential benefits of early detection considered in the questionnaire (Figure 5).

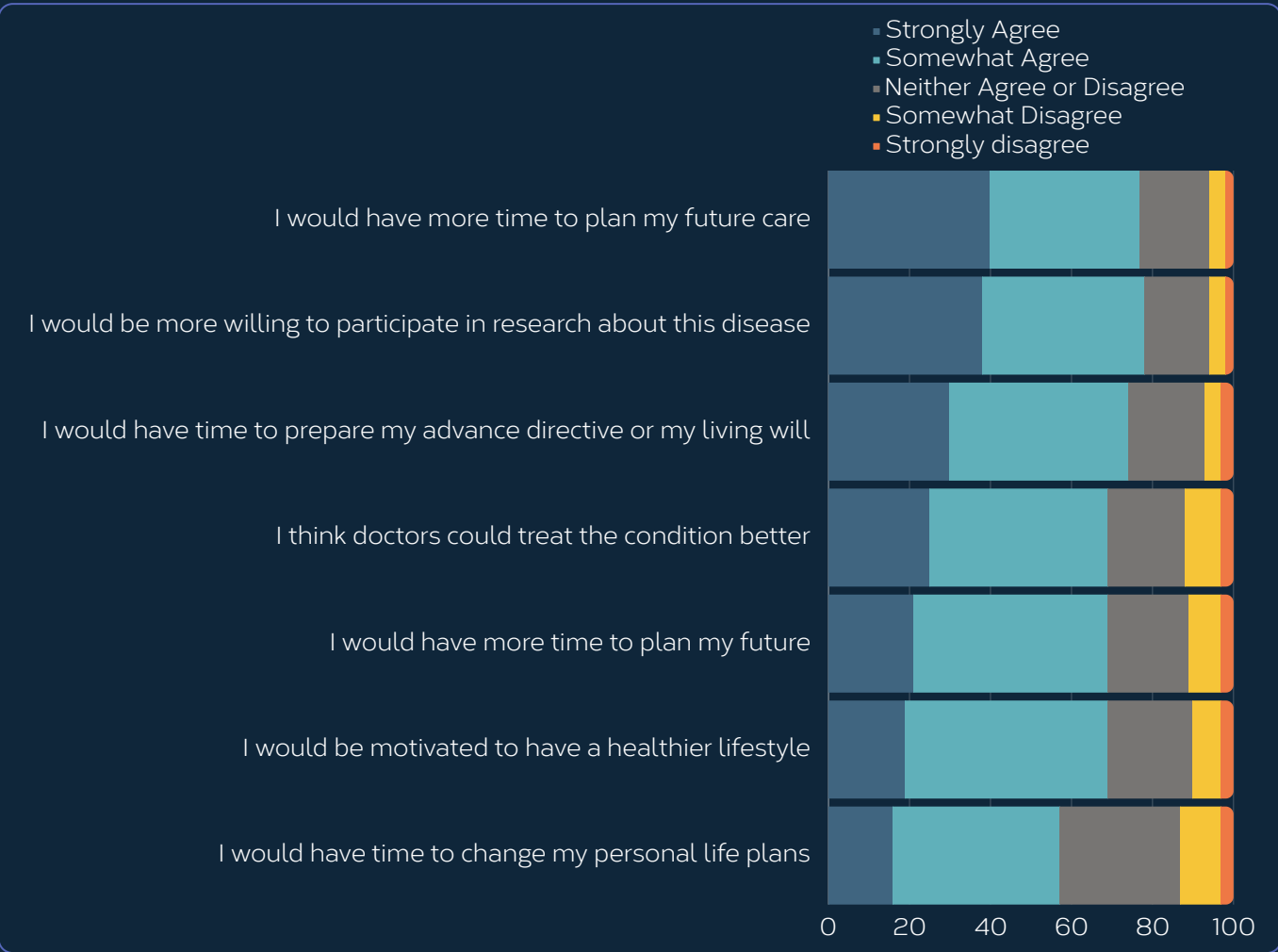


Figure 5. Benefit of early detection (% of response to each statement).

Early detection

Younger respondents between 18-24 and 25-34 years old were less likely to agree with the benefits compared to age groups in the 55+ category (27% and 48% vs 57%), together with ethnic minorities (excluding white minorities) compared to the white ethnic group (31% vs 52%).

Those living with a household income in the highest category were more likely to agree with the benefits compared to those in the lowest (65% vs 40%), together with those with the highest education level category (57%) compared to those with no formal education (33%).

Loss of independence concerns

When asked about concerns for the loss of independence, the most frequently given answer was “somewhat agree”, indicating that the respondents tend to agree, but not strongly, with the provided statements (Figure 6). Among the listed concerns, most participants agreed with losing financial security (71%) and living in a care home (70%).

Women were more likely to agree with the loss of independence concerns compared to men (49% VS 34%),

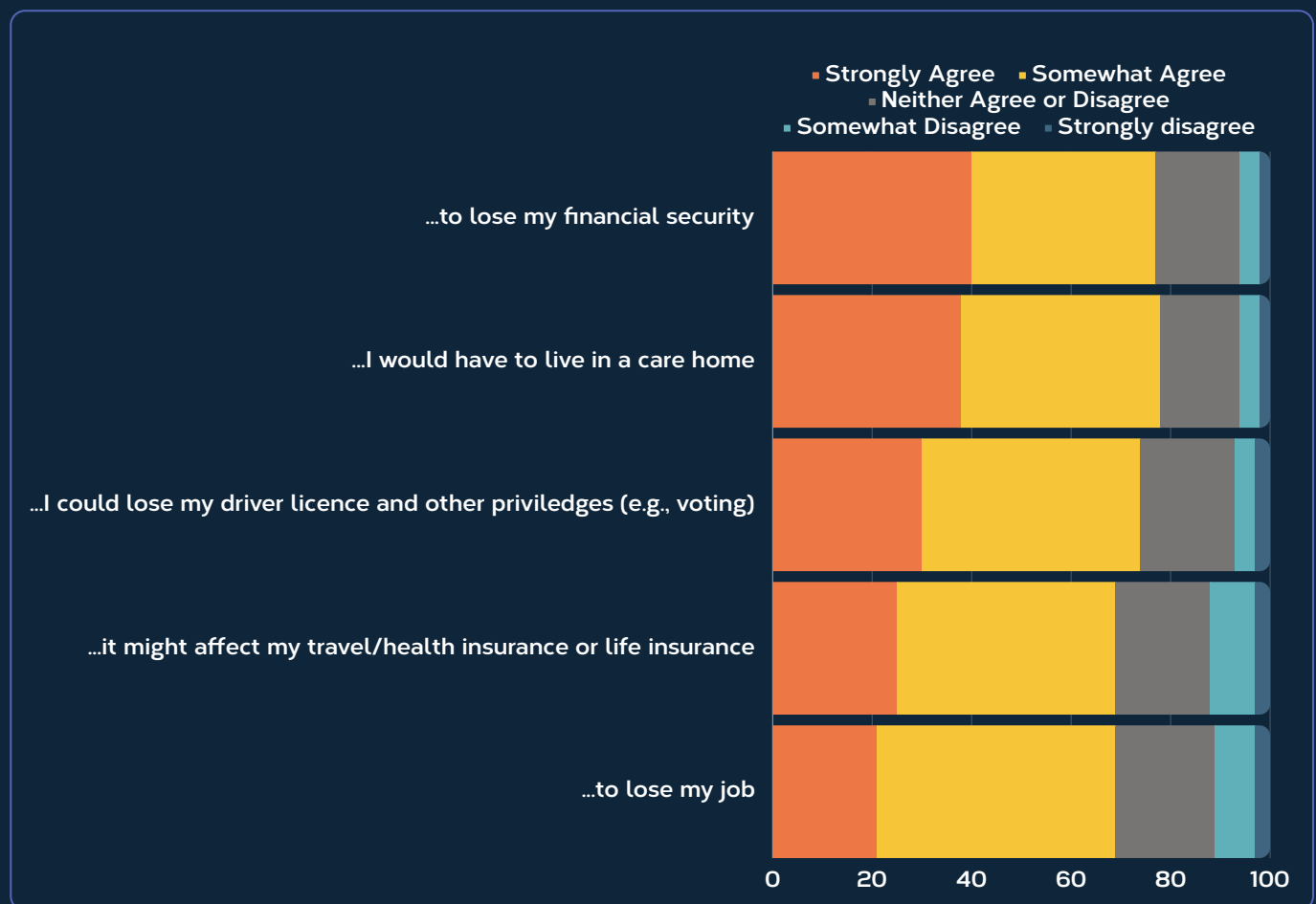


Figure 6. Loss of independence (% of response to each statement starting with 'I would be concerned...')

Early detection

Stigma concerns

When asked about potential stigma related to early detection, the most frequent answer given by respondents was ‘somewhat disagree’ (Figure 7).

Among the listed concerns, most participants agreed with the concern of no longer being taken seriously (40%) and not being listened to by healthcare professionals (34%).

Respondents in younger age group were more likely to agree with stigma concerns, particularly aged between 35 to 44 years old, compared to respondents in the 55+ group (52% % vs 35%). People living with the highest income were less likely to agree with stigma concerns compared to the lowest (37% vs 42%).

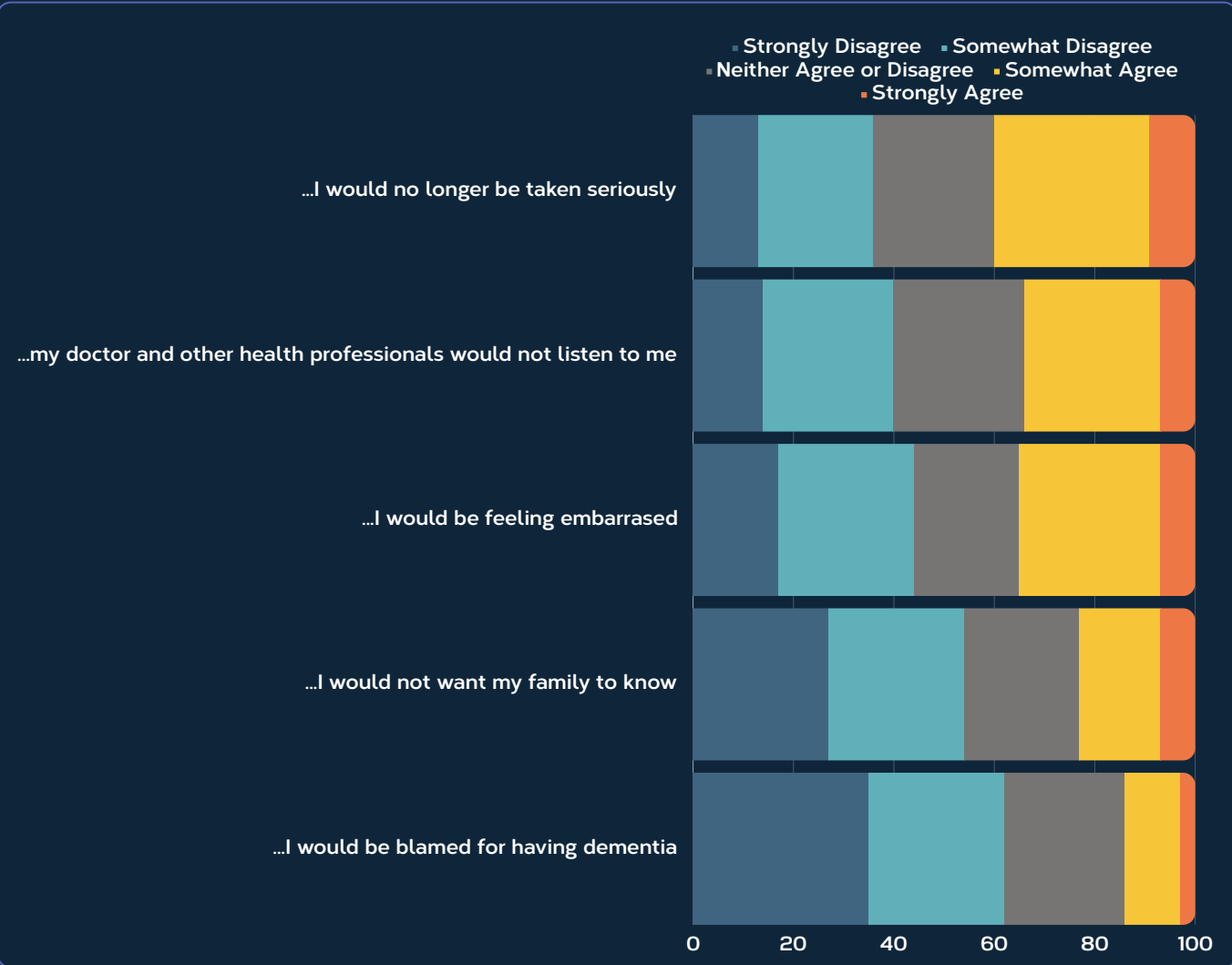


Figure 7. Stigma scale (% of responses to each statement starting with ‘I would be concerned...’).

Early detection

Early detection testing

We asked the participants to tell us whether they would take an early detection test, and most of the respondents (88%) answered that they would wish to do so (Figure 5). Among these, 24% would only take the test if they could be supported with ways to prevent the progression of the disease (e.g., lifestyle changes and cognitive exercises) and another 24% only if there were access to treatment that would slow the disease.

Women were more likely to say they would not take the test (14% women vs 9% men). Respondents above 55 years old were more likely to say they would not take the test (16%) compared age groups 18 to 24 (9%), 25 to 35 (9%) and 35 to 44 (7%). A higher level of stigma concerns and lower perception of early diagnosis benefits were associated with people being less likely to want to take the test.

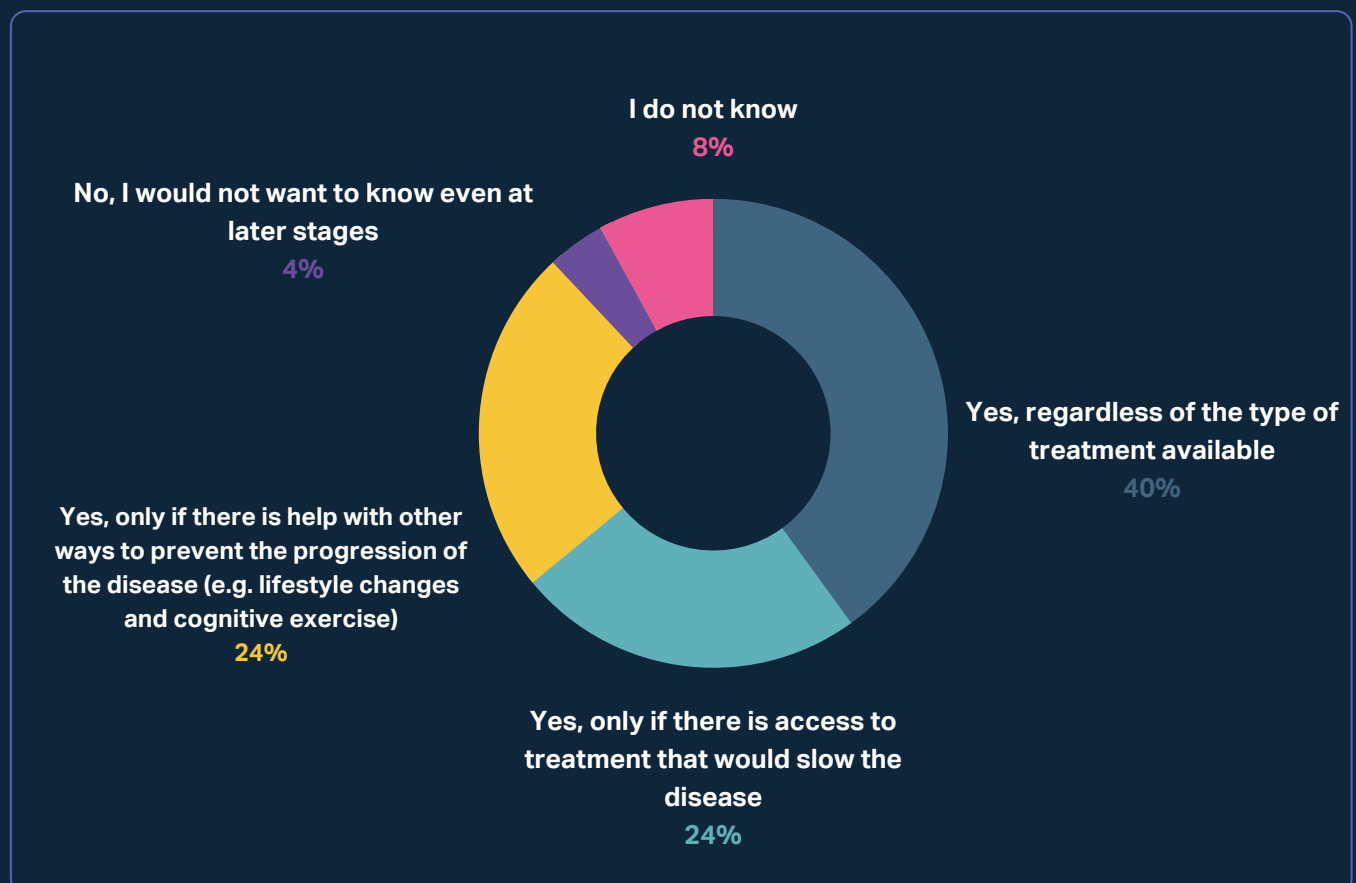


Figure 8. Answers to the question "Imagine doctors could use a test to determine whether you have early sign of Alzheimer's Disease in your brain, potentially years before the symptoms appear. Would you take the test?"

Qualitative results

This section covers the results of our final open-ended question, aimed at gaining further insight on people's attitudes.

The final open-ended question aimed at gathering further insights on the public's attitudes by asking "Would you like to comment on any aspect of dementia early diagnosis or lifestyle changes for dementia risk reduction that you think is particularly concerning or beneficial?". Out of the total participants, 105 (11%) provided a valid answer and were considered for the thematic analysis. The responses were divided into three themes which are reported below: early detection and diagnosis, risk reduction and dementia concerns.

Early detection and diagnosis

This theme was the most commented on by participants. Many participants expressed their belief in the importance of early diagnosis using words like "crucial," "best thing" or "helpful." These sentiments highlight their recognition of the potential benefits that early diagnosis can offer. Participants emphasised the significance of planning for the future, including "making informed choices about lifestyle," and addressing the disease "...before it's too late."

However, participants also highlighted concerns regarding early detection. Specific concerns mentioned included the potential impact of early detection on the quality of life, the potential loss of independence and stigma. Specifically, respondents expressed fears of being denied insurance coverage, work opportunities, or promotions due to the perceived stigma and misconceptions surrounding dementia. A participant observed "...many people in the early stages of the disease hide their symptoms." One participant highlighted how concerning it was

not knowing severity and progression of the disease, even with knowledge of their own risk after detection. These concerns highlight the complex decision-making process individuals face when considering early detection or diagnosis, as they weigh the potential benefits against the potential consequences on their autonomy and life choices.

It is important to note that many participants highlighted the need of increasing awareness surrounding early diagnosis and what are the signs and symptoms of early dementia. A participant stated "...there is not enough information out there to help and I don't know how the onset of it starts." A few participants also reported concerns about current clinical practice. One participant shared a personal anecdote where memory concerns were not promptly addressed in primary care, while another expressed a desire to participate in a medical trial to understand if they were experiencing early onset dementia. These concerns highlight a potential gap in the support provided to individuals seeking an early diagnosis or expressing worries about their cognitive health.

Dementia risk reduction

Numerous participants expressed their belief in the importance of risk reduction and identified activities they deemed most beneficial. Physical and mental exercises were frequently mentioned as key brain health activities, aligning with the quantitative results. Participants also highlighted the significance of smoking cessation and maintaining a healthy diet.

Qualitative results

Additionally, a few respondents expressed personal concern about potential risks associated with alcohol consumption, and some pointed out the lack of public awareness regarding the link between alcohol consumption and dementia risk.

Many participants emphasised the need for more information on dementia risk factors. They highlighted the importance of making information readily available and increasing discussions about dementia prevention through various media platforms. Some participants stressed the significance of raising awareness from a young age and targeting young adults. They expressed a desire for more specific and actionable information, using words like 'steps' or 'points.' Some participants suggested that general information might not be as useful without context or practical suggestions on implementing lifestyle changes. One participant stated, 'It would be good to see more suggestions on ways to sustainably adapt your lifestyle to better look after your brain health, rather than just seeing lists of all the things we should be doing without context or suggestions of how to go about them'.

Moreover, participants emphasised the importance of receiving professional support. They expressed a desire to have their lifestyle assessed by a professional or through a questionnaire, believing it would provide valuable insights. Another participant highlighted the need for a treatment pathway, including access to healthcare professionals such as dietitians, physiotherapists, or medical experts, to guide individuals in implementing preventive measures effectively. These insights reflect participants' strong belief in risk reduction and the importance of actionable information, public awareness

campaigns, and professional support.

Dementia concerns

Finally, a smaller number of participants commented on general concerns regarding dementia. They used words like "horrible," "scary," "sad," or "terrible" to express their feelings about dementia which highlights the significant burden and profound impact that dementia has on individuals and their families. Few participants shared their observations and concerns about the support available for people and families affected by dementia. One participant expressed concerns regarding the current level of support provided, while another discussed the challenges they face when it comes to caring for themselves. However, respondents also highlighted positive aspects of the support available after a dementia diagnosis. A participant emphasised that there are many services that can assist and provide hope post-diagnosis, stating, "There are many services that can support after a diagnosis; life doesn't have to end there."

Discussion and conclusions

The findings of this research highlight the need for increased awareness on dementia risk reduction and brain health. The participants showed a good awareness of dementia, yet almost half of the participants (47%) either believed we cannot reduce our risk of developing dementia or weren't sure if risk can be reduced. Only one out of three participants were aware that social isolation, smoking, and being sedentary are risk factors for dementia. Younger age groups (less than 55 years old) and those with no formal education showed less awareness and could therefore be the target of awareness campaigns. These findings align with previous research from the Alzheimer Research UK's Dementia Attitudes Monitor study, conducted in the UK in 2021. The report showed a similar gap in dementia risk reduction awareness with only one third of the surveyed individuals thinking that it's possible to reduce the risk of developing dementia [7].

Attitudes towards brain health and dementia risk

Participants in our survey showed a positive attitude towards activities promoting brain health, especially towards mentally stimulating activities, regular exercise, and social engagement. However, differences in willingness to engage in these activities were observed across age groups, with younger individuals (18-24) showing lower interest compared to those aged 55 and above. Younger individuals were particularly unlikely to limit eating fast food, food high in fats, salt and sugar (HFSS) and increase quality and quantity of sleep (e.g., setting a sleeping schedule) and reduce time spent sitting down. These results might be explained by peer pressure influence and cultural expectations that may encourage behaviours like eating out

and late-night activities [8].

A less advantaged socio-economical background (based on household income and education) was also noticed to influence the engagement in these activities, particularly with following a healthy diet and reducing HFSS. This finding aligns with current knowledge on the affordability of healthy foods [9], exacerbated by the current increase of living costs. Therefore, initiatives aimed at promoting healthy eating for brain health should prioritize and target individuals with lower household incomes, recognizing the challenges they face in affording and maintaining a nutritious diet.

Reducing and managing stress was another activity where participants from low-income households showed less likelihood of engagement. Individuals with limited financial resources may face poorer mental health and well-being related to economic instability [10], time constraints and limited resources and awareness on how to manage stress. Initiatives to promote stress management for brain health should prioritise affordability and education, ensuring that all members of the community, regardless of their income and education level, can cope with stress and safeguard their mental well-being.

Additionally, our survey found that most participants expressed willingness to know their risk of developing dementia in the future based on their lifestyle and/or genetics. This willingness was particularly evident among younger age groups, suggesting a proactive attitude towards understanding individual risk factors and taking control of their brain health, despite their current lower awareness and engagement in certain brain health behaviours.

Discussion and conclusions

This presents an opportunity for targeted education and awareness campaigns to empower young people to look after their brain health. Many of the participants emphasised the need for more information on risk factors in the open-ended question, calling for accessible and context-specific information to facilitate lifestyle changes. They stressed the significance of raising awareness from a young age and expressed a desire for practical suggestions and professional support on implementing measures to maintain brain health.

Attitudes towards early detection and diagnosis

The findings of this study also highlight the overall positive attitude towards early detection and diagnosis. The study found that most respondents (88%) were willing to undergo testing and acknowledged its benefits, in particular planning for future care. However, considerable concerns about the potential loss of independence were noted among most of the participants, especially women.

Participants were particularly concerned about loss of financial security and the prospect of moving to a care home. Stigma concerns were less pronounced than concerns about loss of independence, but still present in particular “not being taken seriously” and “not being listened to by doctors and other healthcare professionals”.

A recent research study employing randomised vignettes in the US suggests that stigma extends into pre-clinical Alzheimer's disease (AD) and remains unaltered by the availability of treatment options [12].

Hence, it is crucial to bear in mind the potential impact that concerns surrounding stigma and loss of independence as they may

act as a deterrent for individuals considering an early diagnosis or seeking early detection. Targeted interventions aimed at reducing stigma and addressing loss of independence concerns is essential to ensure that individuals who choose early detection or diagnosis can do so while maintaining their dignity and well-being.

In the open-ended question, few participants highlighted the potential psychological impact of an early diagnosis or detection on the quality of life due to living with the fear associated with developing dementia. Regarding detection, existing research suggests that disclosing genetic biomarkers like APOE ε4 genotype to cognitively healthy individuals may not result in major psychological and social consequences, while the long-term impact of disclosing other non-genetic biomarkers is uncertain [11]. Further research is necessary to comprehensively understand the long-term impact of early detection disclosure.

Among the people willing to undergo testing, almost half of respondents (48%) expressed a preference for testing only if they could be supported with ways to reduce the progression of the disease, such as lifestyle changes and cognitive exercises, or if there were access to treatment options that could slow down the disease.

These results reinforce the need to strengthen specialised services that can provide comprehensive support for individuals seeking early detection or diagnosis and support with risk reduction. Specifically, there is a clear need for the creation of brain health services encompassing professional support for lifestyle adjustments, cognitive training, and the provision of effective diagnostic and treatments [6].

Discussion and conclusions

Finally, there was a notable level of uncertainty among participants regarding the onset of dementia symptoms, which may pose challenges to early diagnosis efforts. Participants emphasised the need for increased awareness of the signs of early dementia, highlighting gaps in information. Addressing misconceptions about the progression of dementia symptoms is crucial for promoting early diagnosis.

In conclusion, this survey highlighted the need to increase awareness of brain health and to address knowledge gaps in dementia risk reduction, particularly in younger groups and individuals from less advantaged socio-economic backgrounds. Promoting early diagnosis, detection and prevention of dementia requires addressing concerns about the potential psychological impact, loss of independence and stigma, while providing support with comprehensive education, preventative strategies, and post-diagnosis care.

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Future directions

1 **Continue to raise awareness about risk reduction**

It is important to continue to spread knowledge about how we can reduce the risk of dementia throughout the entire life cycle. Almost half of the participants in our survey were uncertain about whether dementia risk can be reduced. Campaigns to increase awareness should be targeting individuals from a less advantaged background and include young age groups. Initiatives aimed at risk reduction may find a responsive audience in older age groups, particularly those aged 35-44 years old.

2 **Tailor brain health initiatives to diverse demographics:**

Individuals from young age groups (18 to 34) and lower socio-economical background have shown lower level of awareness and engagement with certain activities that can help keeping the brain healthy and may benefit from targeted campaigns. These campaign and interventions should prioritize affordability and provide accessible and practical suggestions tailored to the preferences and needs of each demographic.

3 **Provide professional support for the population**

Many participants expressed a desire for professional support to reduce their risk, and almost half of the participants would take an early detection test only if they could be supported with ways to reduce the progression of the disease or if there could be access to treatment. It is therefore essential to provide support for the population by establishing services such as brain health clinics. These services could provide help with lifestyle modifications, cognitive exercises, risk profiling, and access to early detection.

4 **Address concerns and misconceptions about early detection and diagnosis:**

Raising awareness about the early signs of dementia and debunking misconceptions about symptom progression can improve early diagnosis rates. Whilst many participants are willing to undergo testing for early detection, some have concerns about potential diagnosis or detection stigmatisation and loss of independence, especially financial security. It is essential to provide comprehensive information and support to address these concerns to those who seek early diagnosis and prepare for early detection.

5 **Prioritize research on early detection disclosure:**

Further research is needed to investigate the psychological impact and social consequences of early detection on individuals, encompassing issues such as stigmatisation and loss of independence. This research could provide insights to develop effective strategies for early detection initiatives.

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Appendix 1

Table 1. Sample demographics.

| | | NUMBER | PERCENTAGE |
|---------------------|--|--------|------------|
| SAMPLE | | 941 | |
| SEX | | | |
| | Male | 440 | 47% |
| | Female | 497 | 53% |
| AGE | | | |
| | 18-24 | 119 | 13% |
| | 25-34 | 186 | 20% |
| | 35-44 | 170 | 18% |
| | 45-54 | 180 | 19% |
| | 55+ | 286 | 30% |
| ETHNICITY | | | |
| | White ethnicity | 876 | 93.1% |
| | Ethnic minorities (excluding white minorities) | 65 | 6.9% |
| EDUCATION | | | |
| | No formal education | 30 | 3% |
| | GCSE / Ordinary level / NVQ | 190 | 20% |
| | A levels / Higher | 195 | 21% |
| | SVQ level 4 or equivalent | 146 | 16% |
| | Degrees / Masters / PhD | 363 | 39% |
| INCOME | | | |
| | Up to 23,000 | 115 | 27.8% |
| | £23,001 to 43, 000 | 291 | 32.8% |
| | £43,001 to 65,000 | 190 | 21.4% |
| | More than £65,000 | 161 | 18.1% |
| URBANICITY | | | |
| | A remote or accessible rural | 142 | 15.1% |
| | A remote or accessible small town | 326 | 34.6% |
| | An urban area such as a larger town or city | 473 | 50.3% |
| FAMILIARITY* | | | |
| | Yes | 694 | 74% |
| | No | 200 | 21% |
| | Unsure | 45 | 5% |
| | * Have you ever known a person with Alzheimer's disease or another type of dementia? | | |

Appendix 1

Table 2. Internal consistency reliability of scales using the Cronbach's alpha coefficient.

| Scale | Items | Alpha |
|----------------------|-------|-------|
| Dementia knowledge | 6 | 0.52 |
| Benefits | 7 | 0.85 |
| Loss of Independence | 5 | 0.75 |
| Stigma | 5 | 0.67 |

Appendix 2

Limitations

The study relied on an online survey administered through the Qualtrics online panel, which may introduce selection bias as it excludes individuals without internet access or those who do not participate in online surveys. All data collected in this study were self-reported, which introduces the possibility of social desirability bias. Some of the scales used, such as the “Dementia awareness” were created ad hoc and not previously validated. Regression coefficients and individual p-values are not reported in this document which for simplicity only report group differences with raw percentages.

Furthermore, the document reports non-weighted results, although participants were screened to confirm their residency in Scotland, and quotas on gender and age were followed ensuring that the sample reflects the target population. The ethnicity composition and the level of education of the participants in our survey was found to be similar to the Scottish population; however, there was an under-representation of individuals with "no formal education" and of individuals falling within the annual household income category of £15,000 to £23,000. Conversely, we observed a higher proportion of participants with an annual household income of £65,000 or above, indicating potential over-representation of this income group. These disparities between our survey sample and the broader Scottish population should be taken into consideration when interpreting the results of our study.

Despite these limitations, the study included a substantial number of participants (941) who completed the survey, which enhances the generalisability of the findings and increases the statistical power of the analysis.

Brain Health Scotland would like to thank all those who took part in the survey.

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