

Adults with Intellectual Disability: What do we know about visual and hearing impairments? A cross-sectional analysis.

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Introduction

Visual and hearing impairments are common in adults with intellectual disability (ID); however, this can often be overlooked due to diagnostic overshadowing.

It has been found that individuals with intellectual disability were 10 times more likely to have visual impairments and rates of hearing impairment are 40-100 times higher in populations with ID compared to those without (Carvill S, 2001).

Varying degrees of blindness, deafness and deaf blindness can severely impact one's independence, leading to social isolation and worse quality of life (Tseng *et al.*, 2018). It should therefore be a priority to better understand and recognise these co-morbidities in this population.

Aim

The primary aim of this research was to highlight the prevalence of visual and hearing impairments in adults with ID. Although there have been many previous studies in this field, the population groups used are often children and do not control variables such as age and degree of ID.

We also explored the aetiological factors responsible for blindness and deafness in the population group.

References

Carvill S. Review: Sensory impairments, intellectual disability and psychiatry. *Journal of Intellectual Disability Research*, 2001.
Tseng YC, Liu SH, Lou MF, Huang GS. Quality of life in older adults with sensory impairments: a systematic review. *Qual Life Res*. 2018 Aug;27(8):1957-1971. doi: 10.1007/s11136-018-1799-2. Epub 2018 Feb 5. PMID: 29404924.

Method

All the individuals used in the study were identified using the Leicestershire Intellectual Disability Register and additional information was obtained from the Leicestershire adult ID service alongside data from face-to-face interviews for a PhD project. This register contained a total of 3183 adults over the age of 18. The data in the register encompassed those living in Leicester city, Leicestershire and Rutland who required care from specialist health and social care providers.

The register contained a representative population of adults with mild to moderate and profound ID. The users and carers provided informed consent for this study following information leaflets which were modified appropriately according to their sensory impairment.

This register also collected information surrounding the aetiology of the users' disabilities and co-morbidities in the population. Further statistical analysis was carried out using Pearson Chi-squared tests to investigate the relationship between sensory impairment and confounding factors such as age and severity of ID.

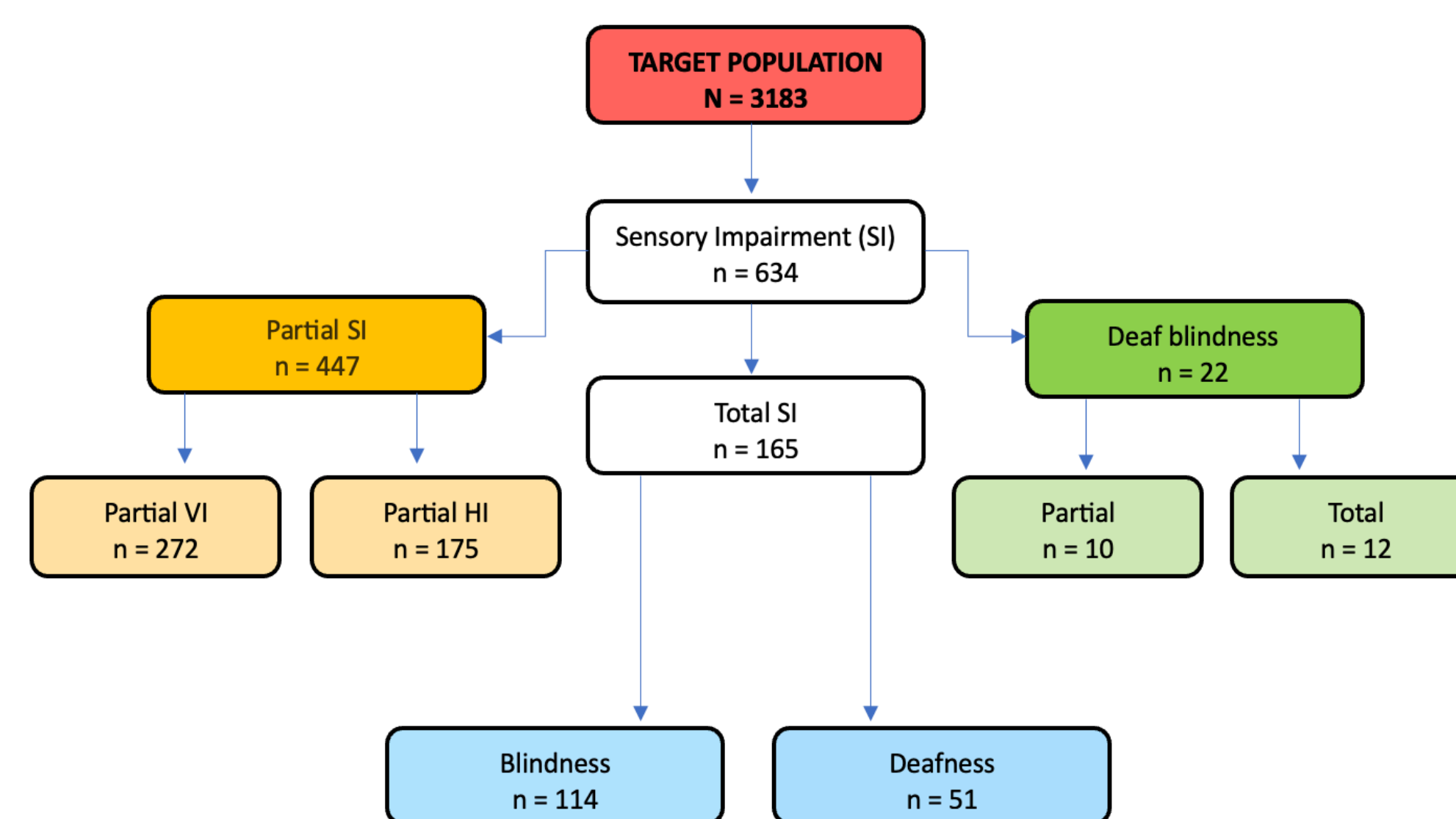


Fig. 1 shows rates blindness, deafness and deaf blindness identified in the population.

Results

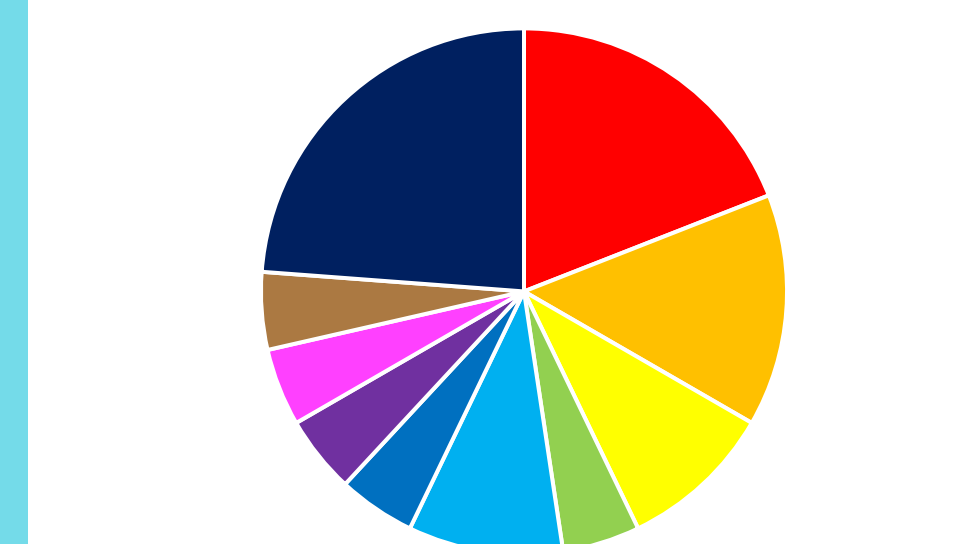
Approximately 1 in 5 adults with ID were found to have visual or hearing impairments. When compared to the general population of the geographic area it was found that blindness was 12 times more prevalent, and deaf blindness was 70 times higher in those with ID.

Demographic Characteristics	N	%
Gender:		
Male	1789	57.0
Female	1349	43.0
Age group (years):		
18-29	757	24.1
30-39	737	23.5
40-49	691	22.0
≥50	953	30.4
Severity of ID:		
Borderline (IQ>70)	66	2.1
Mild (IQ57)	679	21.7
Moderate (IQ<55)	707	22.5
Severe (IQ<35)	919	29.3
Profound (IQ<20)	707	22.5
Missing data	60	1.9
Ethnicity:		
White	2612	83.2
Asian	429	13.7
Black	45	1.4
Mixed	34	1.1
Other/unknown	18	0.6
Co-existing Condition:		
Epilepsy	796	25.0
Down Syndrome	425	13.5
Mobility-related issues	1095	34.9
Urinary incontinence	742	23.6
Faecal incontinence	508	16.2
Total	3138	100.0

Table 1 shows the demographic characteristics and the co-existing conditions of the population.

Both total & partial visual impairment were significantly associated with degree of ID ($p<0.001$) and age ($p=0.04$). Hearing impairment had a statistically significant association with the degree of ID ($p=0.03$) and age group ($p<0.001$). People with visual impairment were also more likely to have co-morbid epilepsy or Down syndrome ($p<0.001$).

Aetiology of ID in cases with deafness (n=21)



Aetiology of ID in cases with blindness (n=60)

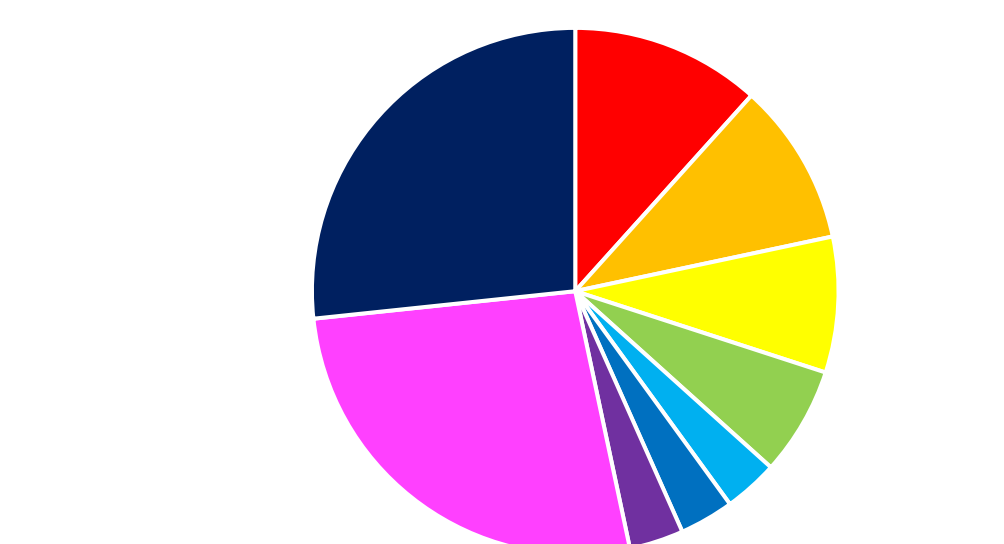


Fig. 2 and Fig. 3 show the aetiology of ID in cases of congenital blindness and deafness.

Unmet healthcare needs of service users with visual and hearing impairments

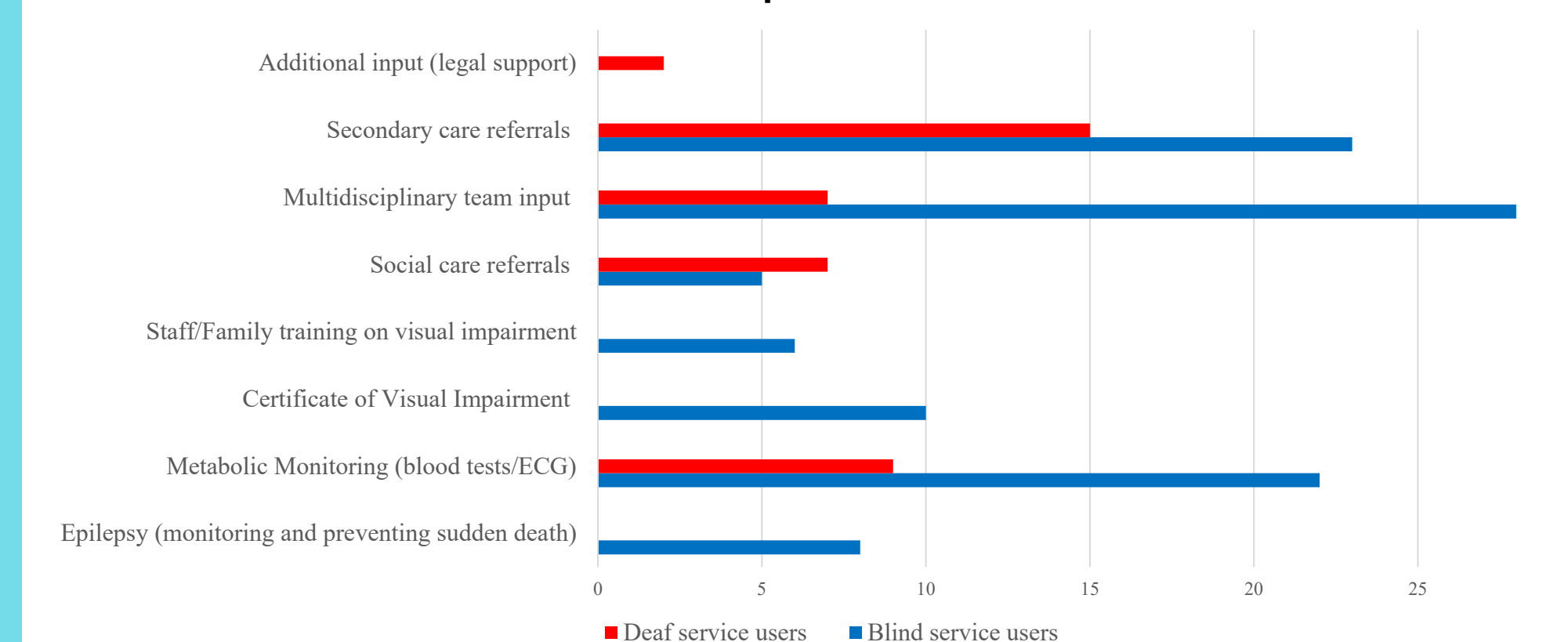


Fig. 4 shows the unmet healthcare needs in the population.

Discussion

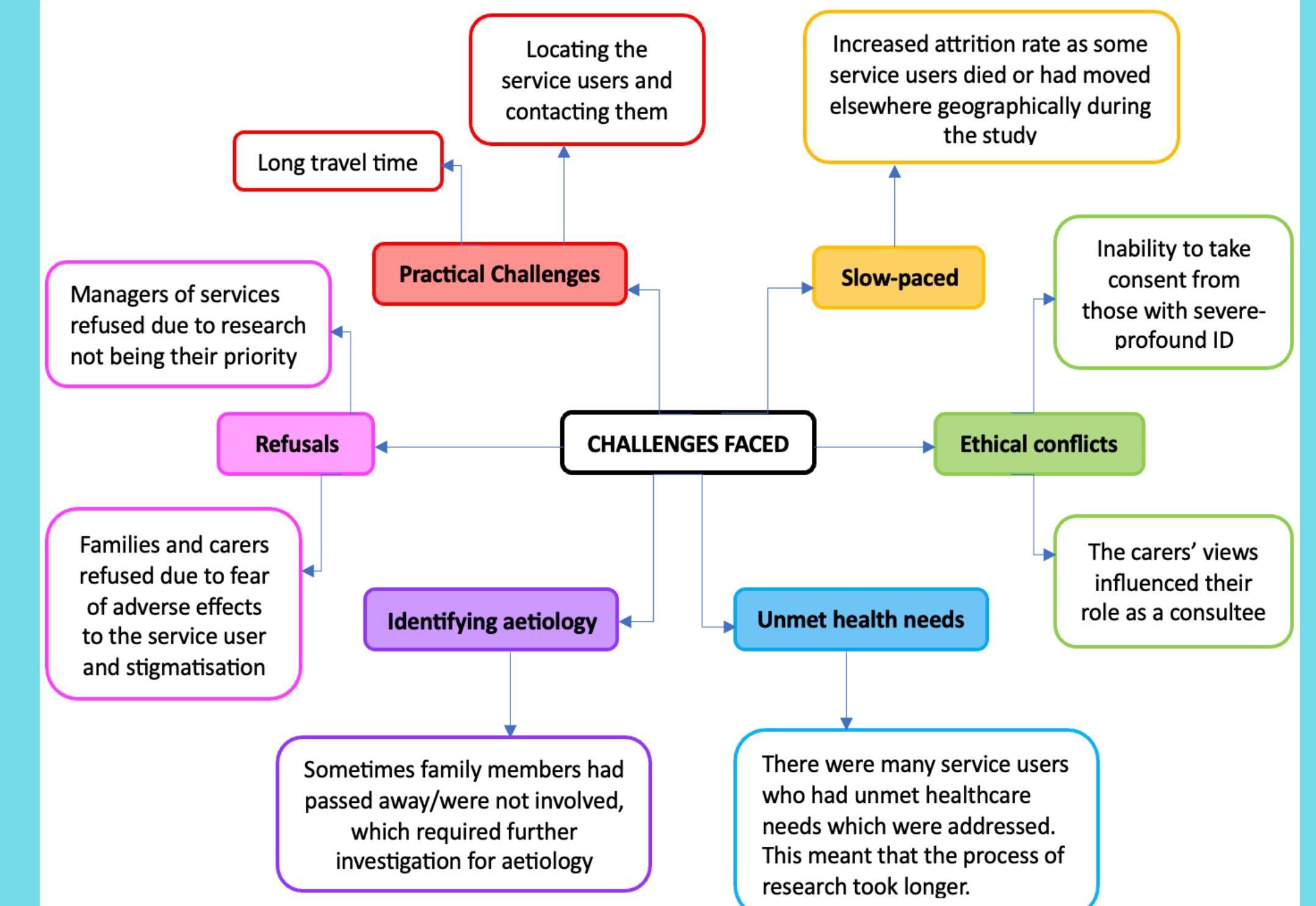


Fig. 5 shows the challenges faced when conducting research for this study.

Conclusion

Our study highlights a high prevalence of visual and hearing impairments in adults with intellectual disability.

We also incidentally found a significant amount of unmet health and social needs, which further demonstrates the barriers of healthcare faced in this population.

The probability of missing sensory impairments in those with intellectual disability increases if these are not objectively screened for by specialist services.

This may result in delayed diagnosis or misdiagnosis and have adverse impacts on their quality of life as well as carers' stress.

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