

Quality of life in adults with low-grade gliomas: a systematic review

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1 Background

- Low-grade gliomas are most diagnosed in adults in their 30s and 40s.
- They are often incurable, limiting life-expectancy to 5-15 years.
- The tumour, progression risk, treatment, and associated side effects mean patients may face prolonged quality of life impairments.

Aim: To understand how quality of life is impacted in adults with a low-grade glioma.

2 Methods

- From inception to 14th September 2021, we systematically searched: MEDLINE, CINAHL, Embase, PubMed, and PsycINFO.
- Independent reviewers screened the search results and completed data extraction of:
 - Study and population characteristics
 - Methodological quality appraisal
 - Overall quality of life
 - Quality of life in comparators and controls
 - Quality of life over time
 - Factors associated with quality of life

3 Results

29 papers reporting 21 studies (cross-sectional, $n=12$; longitudinal, $n=9$) were identified. Papers had **largely good quality**, though **many excluded cognitively impaired patients**.

Low-grade glioma patients have poor global quality of life

Common impairments

Functioning:	Symptoms:
• Cognitive (n=7)	• Fatigue (n=8)
• Emotional (n=5)	• Communication deficits (n=7)
• General health perception (n=4)	• Future uncertainty (n=6)
• Vitality (n=4)	• Headaches (n=5)
• Mental health (n=3)	• Drowsiness (n=4)
• Physical role (n=3)	• Financial difficulties (n=4)
• Social (n=3)	• Insomnia (n=4)
	• Motor dysfunction (n=4)
	• Pain (n=3)



Quality of life in low-grade gliomas was **worse** than non-cancer controls, though **better** than in high-grade glioma patients.

Over time, quality of life remained low, but stable. Any improvements over time were largely observed in comparison to the first month since treatment.

Factors associated with quality of life

28 factors, most commonly age and treatment (each $n=7$) were examined by 14 studies

15 positively associated factors:

- Karnofsky performance status
- Socio-economic status
- Time since diagnosis/treatment

17 negatively associated factors:

- Post-traumatic stress disorder
- Fatigue
- Coping style

Seizure burden was most commonly associated with worse quality of life

4 Conclusions

- Low-grade glioma patients experience wide-ranging quality of life impairments, most notably cognitive functioning and fatigue.
- Quality of life in those with cognitive and communication impairments requires further investigation.
- These findings may help clinicians recognise what, and when, support is necessary, and inform future interventions.