The prevalence and incidence of anxiety and depression in children and young people (CYP) with life-limiting conditions (LLC): A Systematic Review and Meta-Analysis

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10% of 5-16 year olds have a clinically diagnosable mental health problem

**Anxiety**
3.3% of 5-16 year olds

**Depression**
0.9% of 5-16 year olds

**Life-long mental health problems**
50% by 14 years..............75% by 24 years.............

References:
Life-Limiting Conditions (LLCs)

- **Life-limiting/shortening conditions**: no reasonable hope of cure and from which children or young people will die (e.g. Batten disease)
- **Life-threatening conditions**: curative treatment may be feasible but can fail (e.g. cancer)
  - Fear of prognosis
  - Frequent treatments and hospitalisations
  - School absenteeism
  - Disruption to peer relationships

Mental health problems

**Anxiety**
- 8.3% (cystic fibrosis)
- 20.1% (HIV)

**Depression**
- 13% (cystic fibrosis)
- 13.5% (HIV)
Aim: to conduct a systematic review to assess the prevalence and/or incidence of anxiety and depression in children and young people (aged 5-25 years) with a range of life-limiting conditions (LLCs)

Eligibility Criteria

- 5-25 year olds
- LLC diagnosis
- Anxiety/depression prevalence/incidence data
- 2000-Jan 2018
- OECD country

MedLine
- Cancer survivorship literature
- Case studies/series, intervention studies, qualitative studies, systematic reviews

EMBASE

PsychINFO
PRISMA Flow Chart

Identification

Record identified through database searching
(n = 21,305)
(PsychINFO = 2,619)
(EMBASE = 12,523)
(MEDLINE = 6,163)

Records identified from additional sources
(n = 4)

Records after duplicates removed
(n = 14,866)

Records screened
(n = 14,866)

Records excluded
(n = 14,160)

Full-text articles assessed for eligibility
(n = 705)

Full text articles excluded, with reasons
(n = 667)
Study population not in eligible age range: 248
Anxiety/depression incidence/prevalence not reported: 77
Other: 342

Studies included
(n = 38)
Anxiety prevalence = 20
Depression prevalence = 37
Anxiety/depression incidence = 0

38 included studies
Key Study Characteristics

- **Sample size:** 20 – 2032 (median=51.5)
- **Mean age:** 11.1-20.7 years
- **Assessment Tools Used:**
  - 19 for anxiety prevalence
  - 20 for depression prevalence
- **Risk of Bias Assessment:**
  - High: 0 studies
  - Moderate: 27 studies
  - Low: 24 studies
- **LLC Diagnostic Groups:**
  - Cancer: 6 studies
  - Cystic Fibrosis: 9 studies
  - HIV: 9 studies
  - Thalassemia: 4 studies
  - Neurological Diseases: 7 studies
  - Chronic Kidney Disease (CKD): 3 studies

- **Studies:**
  - 18 studies from USA
  - 15 studies from Europe (1 from UK)
  - 1 study from Mexico
  - 1 study from Canada
  - 3 multi-national studies


Anxiety

- 20 studies
- 4,709 participants
- Pooled prevalence estimate: 18.7% (95% Confidence Interval: 14.0%-23.9%)
- Heterogeneity: I²: 91.8%, p<0.001

Meta-regression
- Assessment tool: diagnostic interviews significantly associated with higher pooled anxiety prevalence (β=0.16, 95% CI: 0.02-0.29, p=0.025)
Depression

- 37 studies
- 6,096 participants
- Pooled prevalence estimate: 14.1% (95% Confidence Interval: 10.4%-18.3%)
- Heterogeneity: $I^2=93.2\%$, p<0.001

Meta-regression

- Age: older age significantly associated with higher pooled depression prevalence ($\beta=0.02$, 95% CI: 0.01-0.03, p=0.001)
- Sex: lower proportion of males significantly associated with higher pooled depression prevalence ($\beta=-0.00$, 95% CI: -0.01- 0.00, p=0.033)
Conclusions

- Higher prevalence of anxiety and depression among children and young people with LLCs vs. general population
- Variations in prevalence by LLC diagnostic group, age, assessment tool etc.
- Highlights needs for psychological support
- However, current research has focused on a very narrow range of LLCs

Next Steps

1. Risk factor review
2. Quantitative analysis of UK primary care data
Thank you for listening... any questions?

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