THE EFFECTIVENESS OF SCHOOL-BASED INTERVENTIONS IN ADDRESSING ADOLESCENT MENTAL HEALTH IN LOW- AND MIDDLE-INCOME COUNTRIES

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MENTAL HEALTH

- Fundamental to a person's wellbeing and quality of life
- Influences:
  - Social
  - Economic outcomes
  - Individual’s lifespan
- Low- and middle- income countries (LMICs) – 70% burden of mental health disorders
- Vulnerable populations: Children and Adolescents

ADOLESCENT MENTAL HEALTH

- Adolescence:
  - Fluid concept
  - Age-bound (10 -19 years)
- Period of significant changes:
  - Physical,
  - Social
  - Emotional
- Vulnerable period of high risk of developing mental illness

COMMON ADOLESCENT MENTAL HEALTH (AMH)PROBLEMS

- Characteristics:
  - Overwhelmed
  - Lack of interest
  - Somatic complaints
- Disorders:
  - Anxiety disorders
  - Depression
  - Substance misuse

ADOLESCENT MENTAL HEALTH SERVICES

- Prevention of mental disorders
- Promotion of mental health and wellbeing of adolescents
- Reduction of risk factors associated with mental illness

ECOLOGICAL FRAMEWORK OF MENTAL HEALTH

- Not a theory
- Depiction of what affects children and how they adapt

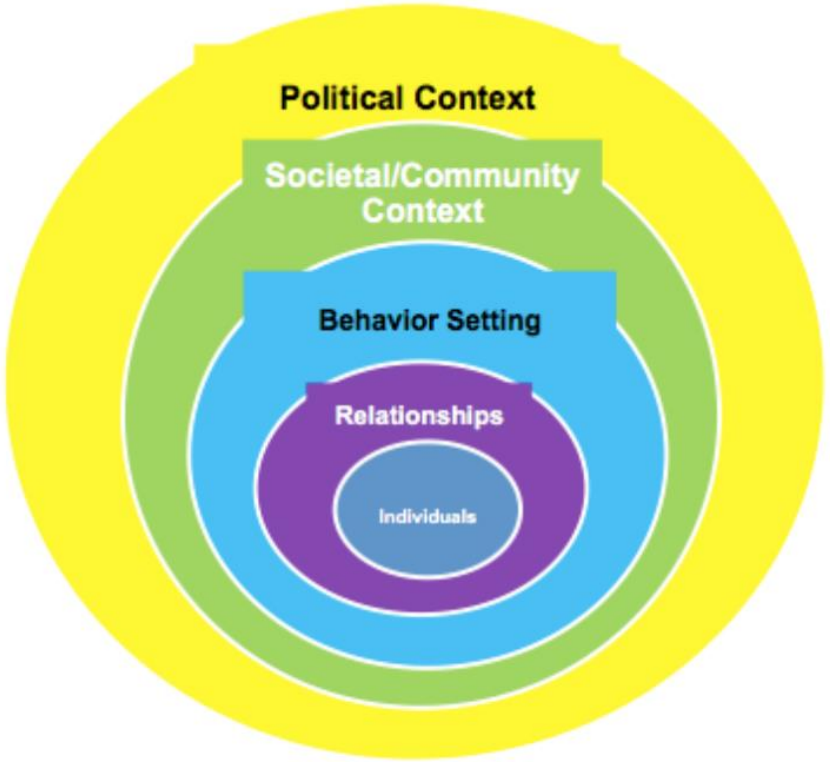


Figure 1.1 The ecological framework of determinants of child and adolescent mental health (Golden & Earp, 2012).

WHAT ROLE COULD A SCHOOL HAVE?

- Majority of time spent in school (Fazel, Patel, Thomas, & Tol, 2014; Stormshak & Dishion, 2002)
- Important context for development (Fazel et al., 2014; Stormshak & Dishion, 2002)
- Meet similar needs of children (Fazel et al., 2014; Stormshak & Dishion, 2002)

METHODS

- Review Question
  - How effective are school-based interventions in addressing adolescent mental health in, and through, school-based settings in LMICs?
- Objective
  - What kind of school-based services have been tested in LMICs?
  - Evaluate the effectiveness of school-based AMH interventions on mental health issues

CRITERIA

- Study designs: All randomised trials using school-based interventions for adolescents in schools, in Low-Middle Income Countries (LMICS).
- Population: Adolescents (10-19 years) who are currently in school.
- Intervention: School-based program
- Comparison: No intervention or management as usual
- Outcomes: effect school-based programs have on depression and anxiety

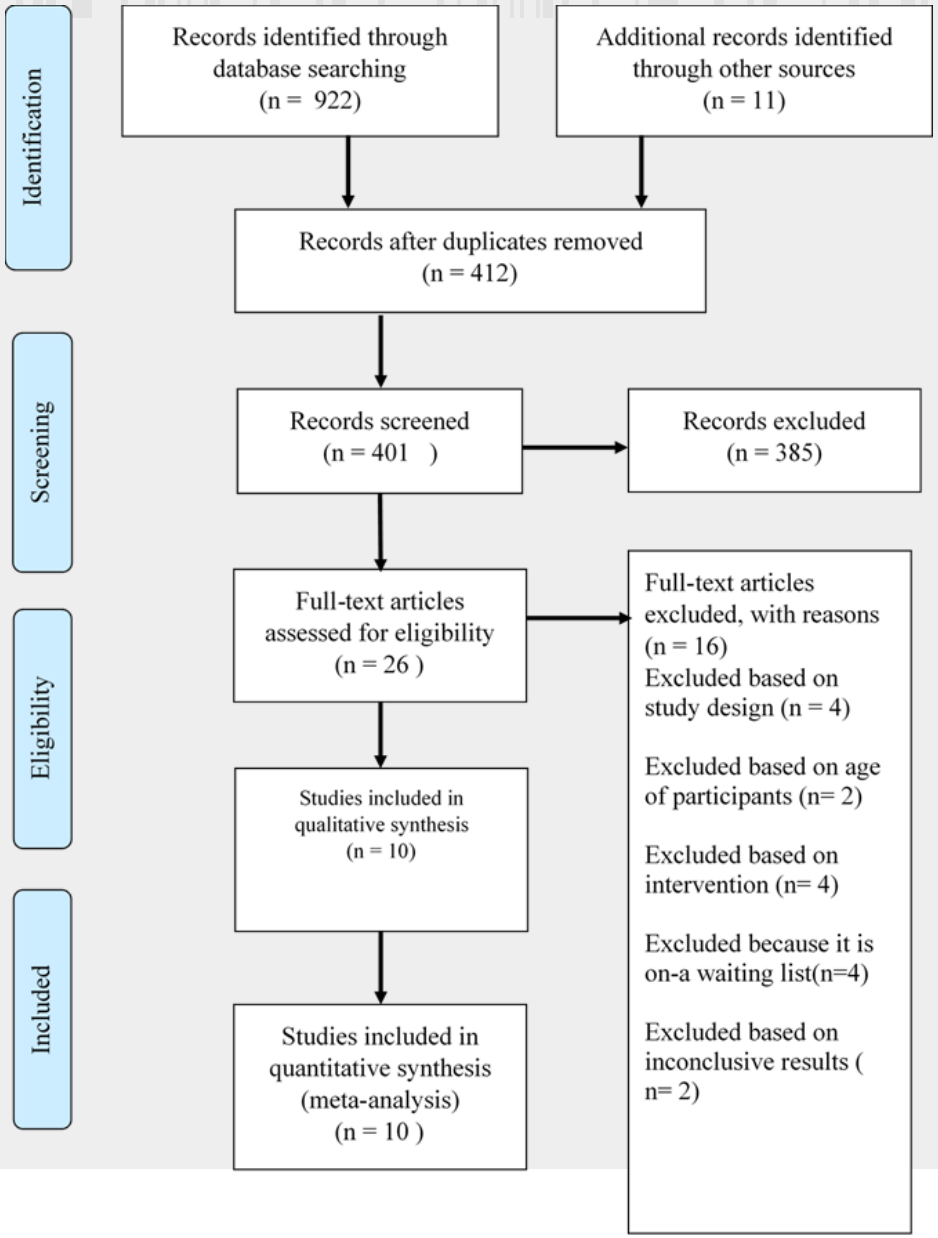
SEARCH STRATEGY AND DATA EXTRACTION

- Search strategy:
  - No language or time limitations
  - Databases searched: The Cochrane Library, PubMed, EBSCOHost, Academic Premier Search, Medline, PsycINFO and PsyArticles including grey literature
  - Followed the methods described in the Cochrane Handbook for screening titles/abstract and Full text eligibility
- Data Extraction:
  - Continuous variables
  - Measured with questionnaire tools

DATA ANALYSIS

- Standardised mean difference (SMD) measure
- Outcomes all continuous variables
- The I^2 statistic was calculated to assess the heterogeneity for each analysis
- Review Manager 5.3 used to produce forest plots

RESULTS



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CHARACTERISTICS OF RCTS INCLUDED

Characteristics of randomised controlled trials that met the inclusion criteria

Study authors(year)	Country	Schools	Child Age	Intervention	Outcome	Measures	Sample size
Berger et al., 2018	Tanzania	Public	11-14 years	Educational Curriculum	Anxiety/ Social Behaviour	SCAS/SDQ	183
Bonhauser et al., (2005)	Chile	Public	15 years	Educational Curriculum	Anxiety/Depression/ Self-esteem	HADS	198
de Villiers & van den Berg, (2012)	South Africa	Middle Class	12-13 years	Resilience programme	Self-Esteem/Self-efficacy	BERS-2	161
Karam et al., (2008)	Lebanon	Public	6-18 years	CBT/Stress inoculation	Depression/Anxiety	DICA	194
Kumakech et al., (2009)	Uganda	Public	10-15 years	Peer-group support	Self-concept/Anxiety/ Depression	BYI	392
Jordans et al., (2010)	Nepal	Public	11-14 years	Educational Curriculum	Anxiety/Depression/ Social behaviour	DSRS/SCARED-S/SDQ	325
Jegannathan et al., (2014)	Cambodia	Public	11-18 years	Educational Curriculum	Anxiety/Depression/ Social behaviour	YSR	321
Leventhal et al., (2015)	India	Public	15-16 years	Educational Curriculum	Anxiety/Depression/ Self-efficacy/	GSES/PHQ-9/GAD-7	2308
Rivet-Dual et al., (2011)	Mauritius	Public	12-16 years	CBT/Interpersonal approaches	Depression/Self-esteem/ Self-efficacy	RADS-2/ RSE/YCI	160
Srikala & Kishore, (2010)	India	Public	14-16 years	Educational Curriculum	Social Behaviour/Self-efficacy/ Self-esteem	SDQ/GSE/ RSE	1028

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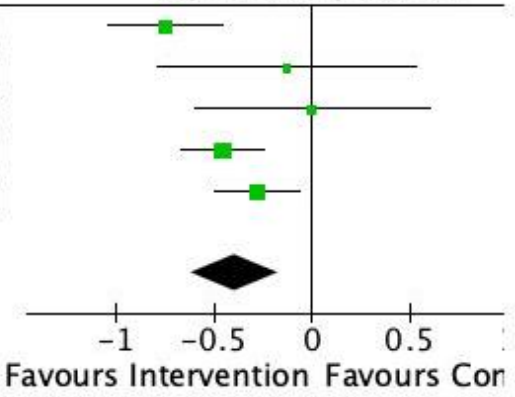
META-ANALYSIS

1.1 Anxiety

Study or Subgroup	Post-Test Mean	Post-Test SD	Post-Test Total	Baseline Mean	Baseline SD	Baseline Total	Weight	Std. Mean Difference IV, Random, 95% CI
Berger 2018	13.78	2.85	95	16.33	3.87	95	23.6%	-0.75 [-1.04, -0.45]
Jeganathan 2014a	0.905	3.064	21	1.333	3.697	15	8.8%	-0.13 [-0.79, 0.54]
Jeganathan 2014b	0.909	2.599	22	0.9	3.388	20	10.1%	0.00 [-0.60, 0.61]
Jordans 2010	3.84	1.53	164	4.55	1.58	164	28.8%	-0.46 [-0.67, -0.24]
Kumakech 2009	18	10	157	20.9	10.8	157	28.6%	-0.28 [-0.50, -0.06]
Total (95% CI)			**459**			**451**	**100.0%**	**-0.40 [-0.62, -0.17]**

Heterogeneity: $Tau^2 = 0.03$; $Chi^2 = 9.05$, df = 4 (P = 0.06); $I^2 = 56\%$

Test for overall effect: Z = 3.49 (P = 0.0005)

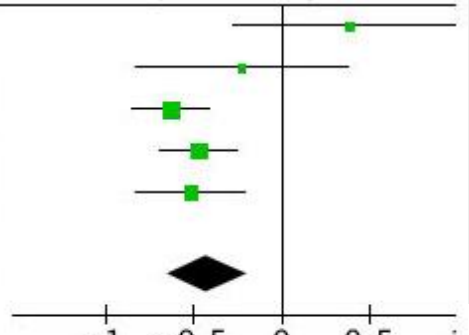


1.2 Depression

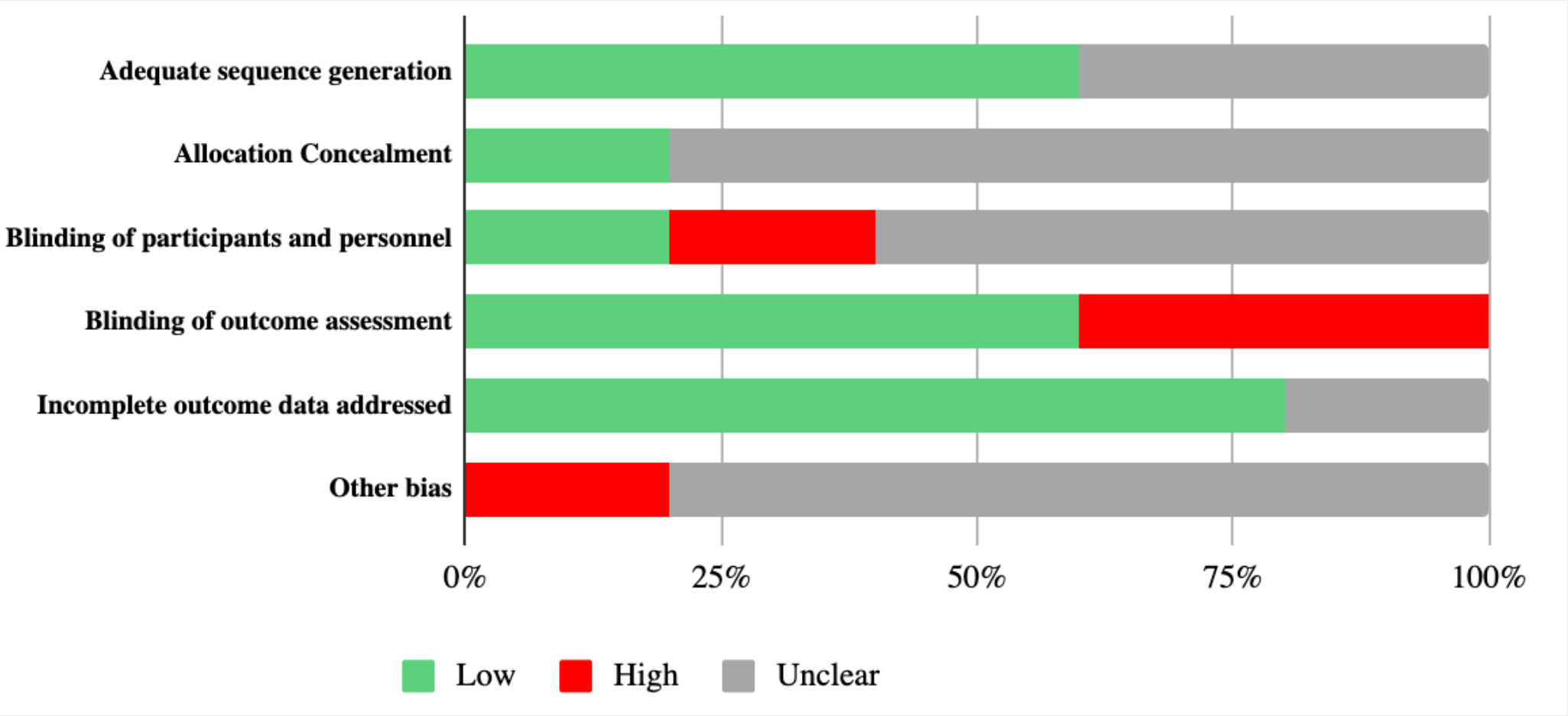
Study or Subgroup	Post-Test Mean	Post-Test SD	Post-Test Total	Baseline Mean	Baseline SD	Baseline Total	Weight	Std. Mean Difference IV, Random, 95% CI
Jeganathan 2014a	-0.048	2.765	21	-1.133	2.642	15	8.9%	0.39 [-0.28, 1.06]
Jeganathan 2014b	0	2.911	22	0.55	1.82	20	10.3%	-0.22 [-0.83, 0.39]
Jordans 2010	11.41	3.53	164	13.57	3.39	164	29.2%	-0.62 [-0.84, -0.40]
Kumakech 2009	13.2	9.4	157	17.6	9.5	157	29.0%	-0.46 [-0.69, -0.24]
Rivet-Duval 2011	47.45	7.95	80	51.81	9.07	80	22.7%	-0.51 [-0.82, -0.19]
Total (95% CI)			**444**			**436**	**100.0%**	**-0.42 [-0.65, -0.19]**

Heterogeneity: $Tau^2 = 0.03$; $Chi^2 = 8.84$, df = 4 (P = 0.07); $I^2 = 55\%$

Test for overall effect: Z = 3.64 (P = 0.0003)



RISK OF BIAS

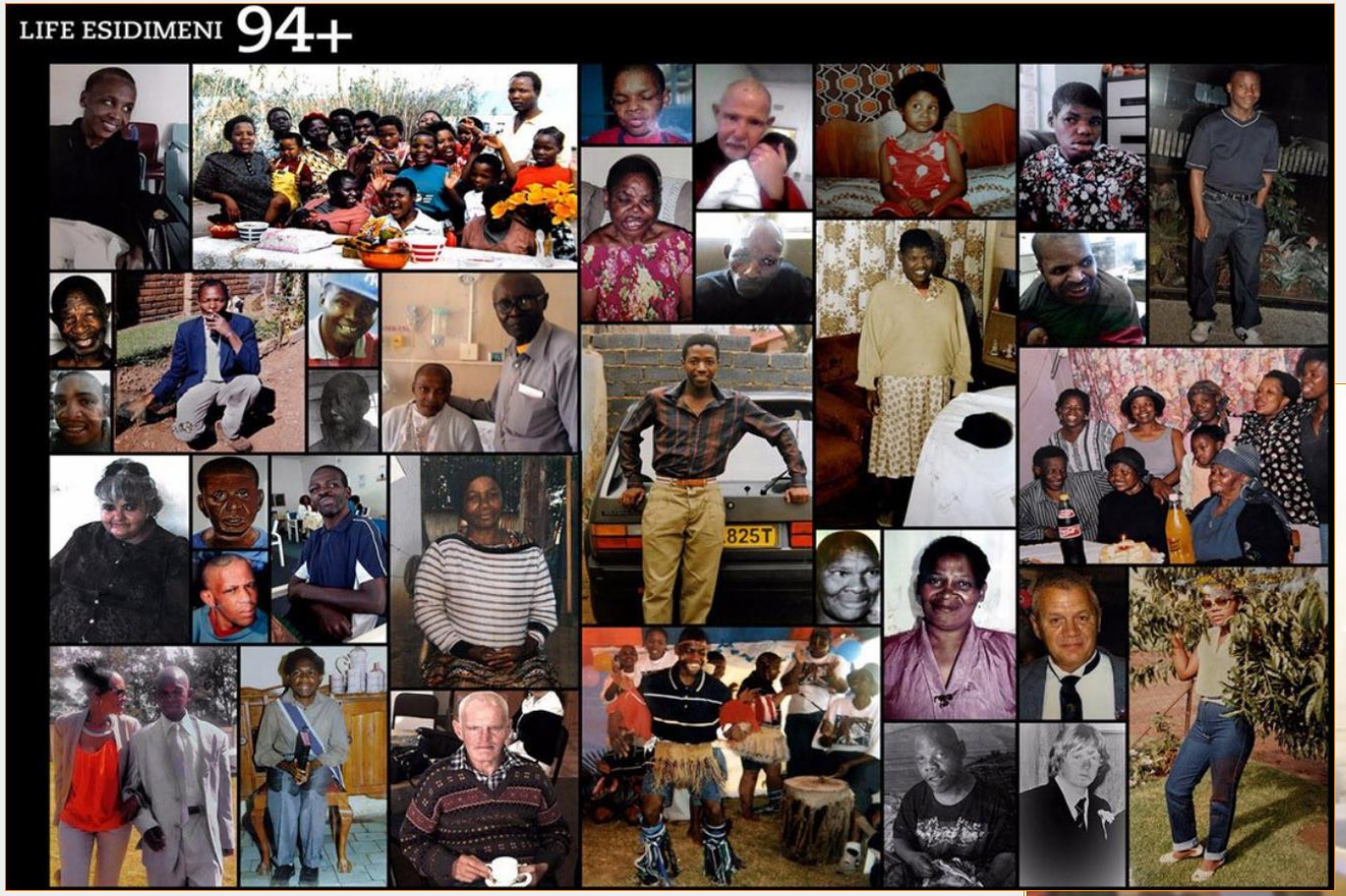

Adequate sequence generation
Allocation Concealment
Blinding of participants and personnel
Blinding of outcome assessment
Incomplete outcome data addressed
Other bias
0%
25%
50%
75%
100%
Low
High
Unclear

LIMITATIONS

- Studies of this nature have inherent methodological flaws in their design
- Diminish risk of bias by ensuring methods and procedures are adequate
- GRADE not used in this our study

DISCUSSION AND CONCLUSIONS

- Types of programs tested were:
  - Educationally based
  - Cognitive behavioural therapies,
  - Stress reduction,
  - Resilience programs
  - Life skills programs
- Evidence to suggest that school-based intervention programs are effective in reducing anxiety and depression
- Not a one size fits all



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