

# Impact of Community Based Therapy on Children With Mental Health Disorders: A Health Technology Assessment

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## INTRODUCTION

- The prevalence of mental health disorders among Indian children is increasing: this is a growing concern in India
- As of 2014, the prevalence of child and adolescent psychiatric disorders in:
  - Community is 6.46% (95% CI 6.08% - 6.88%)<sup>1</sup>
  - In School children is 23.33% (95% CI 22.25% - 24.45%)<sup>2</sup>
- Depression is one of the major mental health disorders affecting children
- Community based therapy, such as school-based therapy (SBT) and psychotherapy (PT) is used in the management of this condition
- School Based Therapy (SBT) is a form of occupational therapy that is given to children based on the nature of the mental health disorder that the children are suffering from
- SBT is offered within a school setup to children in groups by a set of teachers and special educators
- It involves a varied range of activities which mentally and physically encourage and enhance the daily life functioning skills in the children with mental health disorders
- Psychotherapy (PT) is a form of treatment where the child is encouraged to learn about his/her own behavior and about how they can improve the same
- PT can be either group-based or on a one-on-one basis, and is provided by a psychotherapist (who may be a psychiatrist or psychologist)
- PT may involve multiple sessions activities that enhance daily life functioning and help the child to cope up with daily challenging situations

This paper evaluates the impact of community based therapy on children with depression

## OBJECTIVE

- To investigate disease burden of mental health disorders in India
- To assess the clinical and economic impact (by cost-effectiveness analysis) of SBT and PT on the symptoms of depression in Indian children aged below 15 years.

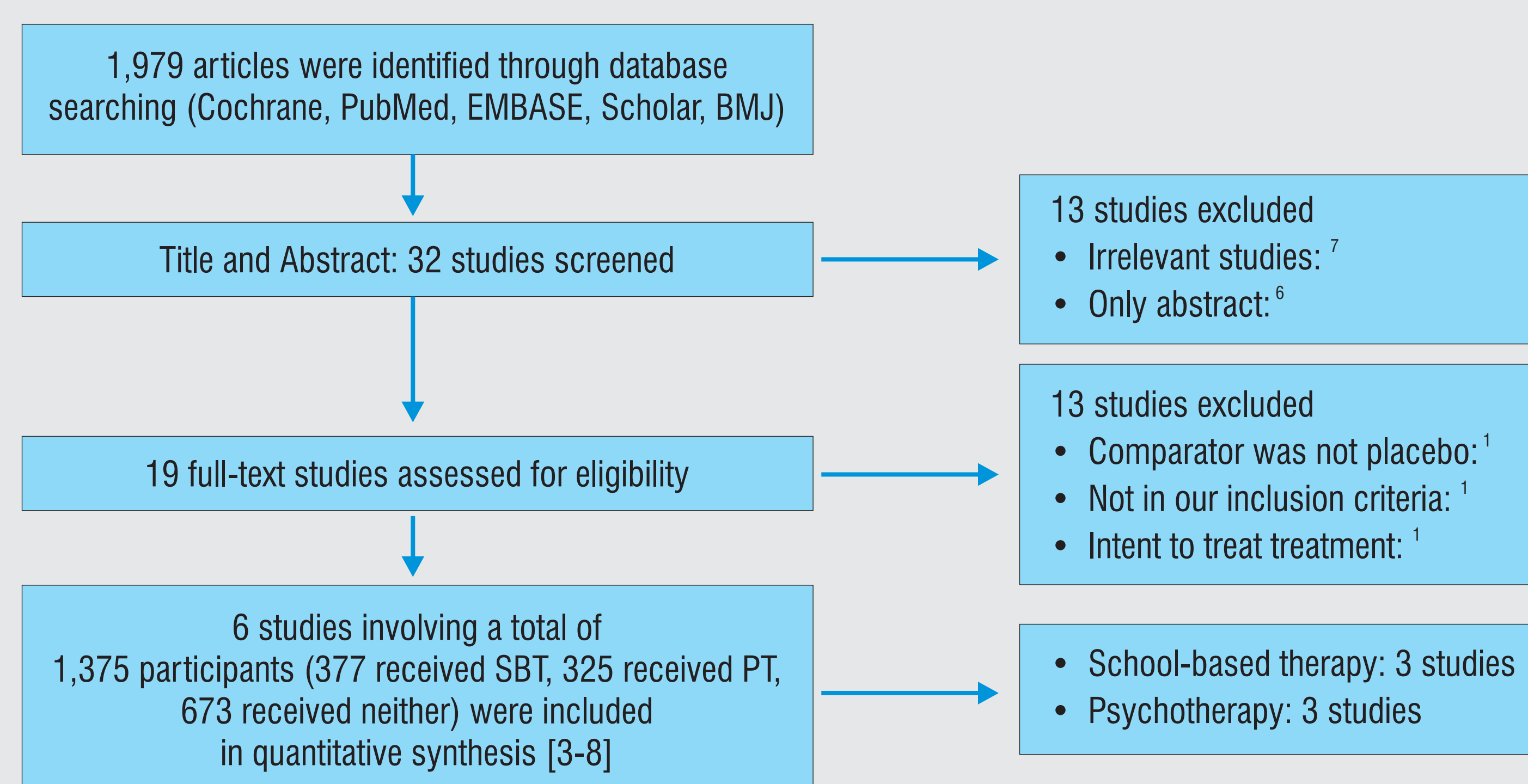
## MATERIALS AND METHODS

- Literature Search: performed in Cochrane Review, Elsevier, PubMed and Medline databases for randomized controlled trials and cohort studies pertaining to community based therapies, particularly SBT and PT, in Indian children aged below 15 years suffering from depression
- Key Words:
  - Community based Intervention
  - Children with mental health disorders
  - Clinical effectiveness

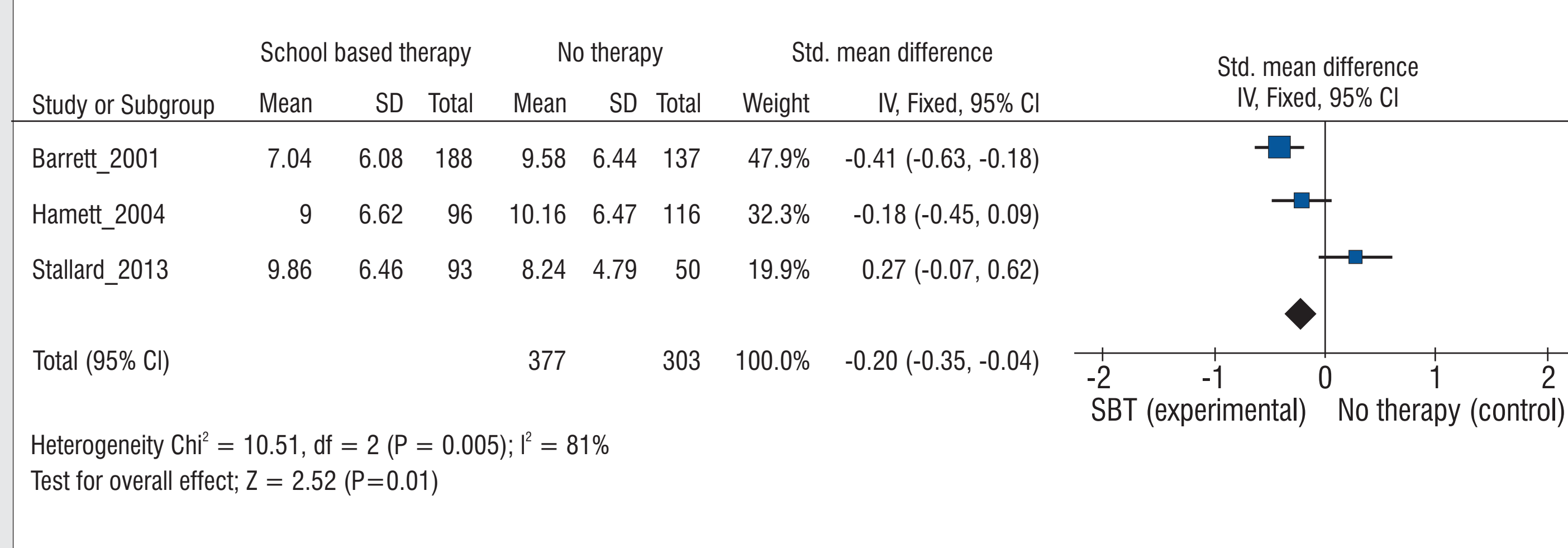
<b>P</b>	Population: Children with mental health disorders
<b>I</b>	Intervention: Community Based Therapy
<b>C</b>	Comparator: No therapy
<b>O</b>	Outcome: Reduction in levels of Depression

- Data synthesis: using RevMan 5.0
- Risk of Bias assessment: using Cochrane Review Manager's Risk of Bias Table
- Assessment of studies was performed by 3 researchers

## RESULTS

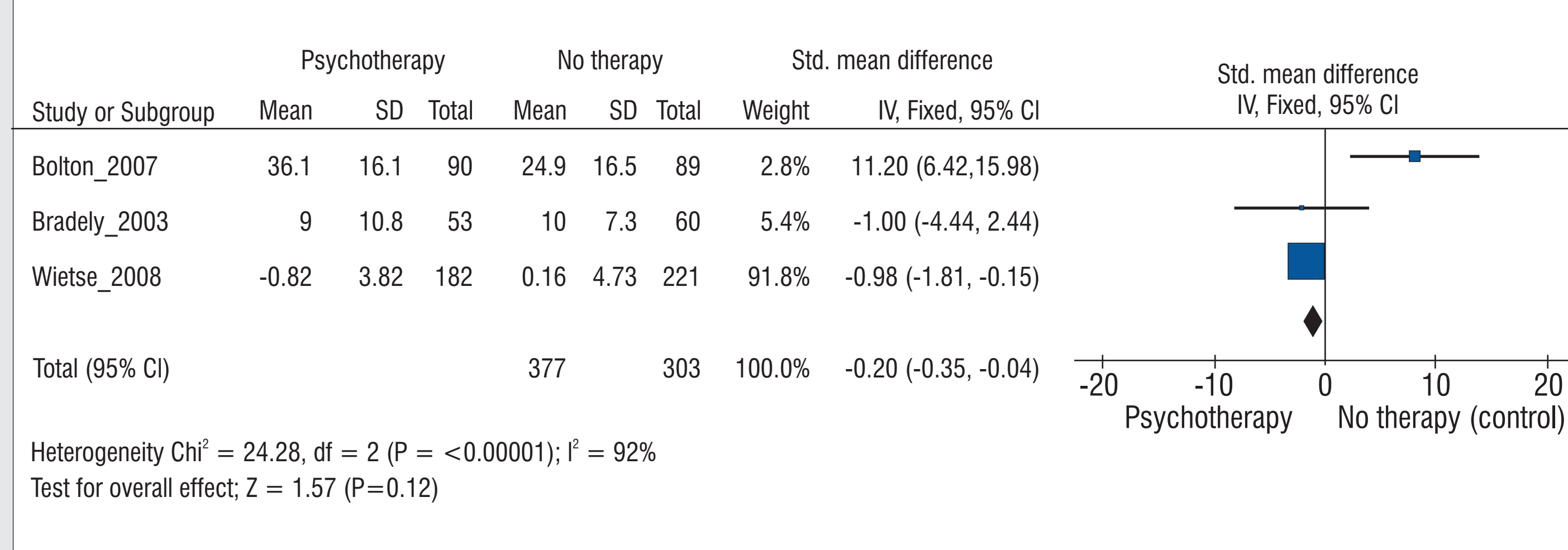


### Clinical effectiveness of school based therapy



In comparison with no therapy, school based therapy significantly reduced symptoms of depression: standard mean difference (SMD) -0.20 (95% confidence interval (CI) -0.35 to -0.04)

### Clinical effectiveness of Psychotherapy



In comparison with no therapy, psychotherapy significantly reduced symptoms of depression: SMD -0.64 (95% CI -1.44 to 0.16).

## Disease burden of mental health disorder in children

- According to WHO, total number of children in India (2014) aged 0-15 years: 364 million
- Since prevalence of mental health disorder in children is 6.46%, [1] total number of children with mental health disorder: 23.5 million
- According to WHO, DALY lost per year for depression in children: 0.004055 DALY/person
- Total DALY lost for total number of children with mental health disorder: 23.5 M x 0.004055 = A total of 95,295.50 DALY/year was lost due to the condition in specific the patient population.

## Economic burden of psychotherapy

- Average cost of PT: INR 300 (US\$ 4.75) per session
- Average number of PT sessions required per year: 13
- Total cost for PT for total children with mental health disorders: 13 x 300 x 2.35 M = INR 9.165 Billion
- INR 9.165 Billion averted 95,295.50 DALY per year
- That is, INR 962,000 (US\$ 15220.341) was required per year to avert 1 DALY

## Measures to make PT more cost-effective

WHO- CHOICE threshold values for intervention cost effectiveness:

Threshold Value	Interpretation	ICER
< GDP* per capita	Very Cost effective	=/ < 94,824
1-3X GDP per capita	Cost Effective	Upto 2.96 Lakh
> 3 X GDP per capita	Not Cost Effective	> 2.96 Lakh

\*According to World Bank, Indian GDP per capita is 1,499 US \$ = Rs. 94824/-

Cost per session (INR)	Cost per year (INR)	Cost for total population (C) (INR)	ICER (C/D)	Cost effective?
300/-	3,900	9,165 Crore	9.61 Lakh/DALY per Year	NO
200/-	2,600	6,110 Crore	6.41 Lakh/DALY per Year	NO
100/-	1,300	3,035 Crore	3.21 Lakh/DALY per year	NO
50/-	650	1,528 Crore	1.60 Lakh/DALY per year	YES

By reducing the cost of each session to INR 50 (US\$ 0.80), PT can be made more cost-effective.

## CONCLUSIONS

- School-based therapy and Psychotherapy are clinically and economically effective in reducing the symptoms of depression in Indian children aged below 15 years suffering from depression.
- By reducing the cost of each session to INR 50 (US\$ 0.80), psychotherapy can be made more cost-effective.

## REFERENCES

- Malhotra S, Patra BN. Child Adolesc Psychiatry Ment Health 2014;8:22
- Shastri PC. Indian J Psychiatry 2009;51(2) 88-95
- Barrett P, Turner C. Br J Clin Psychol 2001;40(Pt 4):399-410
- Bolton P et al. JAMA 2007;298(5):519-27
- Bradley D et al. JAMA 2003;290:603-11
- Harnett PH, Dadds MR. J School Psychol 2004;42:343-57
- Stallard P, Buck R. Br J Psychiatry Suppl 2013;54:s18-23
- Tol WA et al. JAMA 2008;300:655-62