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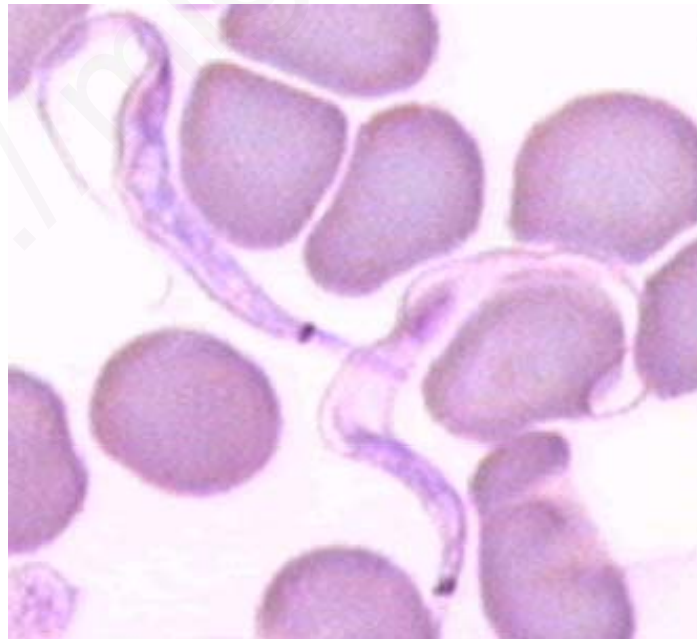


Cost-effectiveness of prevention and control measures for neglected parasitic diseases

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Systematischer Review über die
Kosteneffektivität von Präventions- und
Kontrollmaßnahmen für vernachlässigte
parasitäre Erkrankungen



WHO/TDR

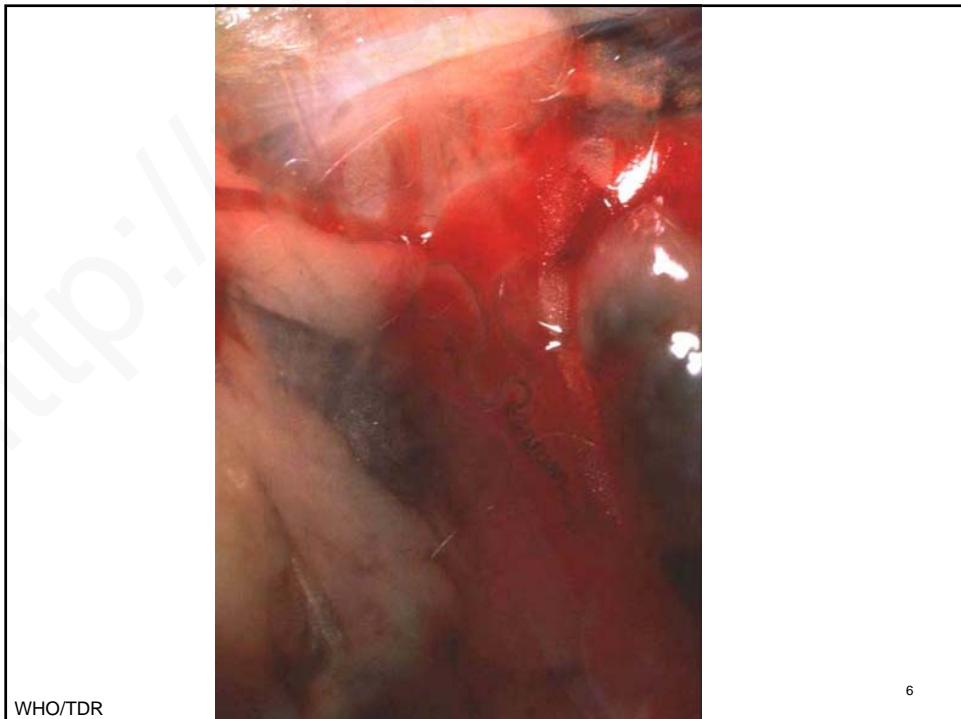
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Background

- Neglected tropical parasitoses cause > 12 mio. DALYs and 129,000 deaths per year*
- Mostly affect poorest populations in rural regions outside of political and economic interest
- Evidence-based allocation of scarce resources needs a solid database on the cost-effectiveness of possible public health interventions

* WHO (2004): World Health Report 2004 – Changing history. Geneva

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Hypotheses

- Only few studies address the cost-effectiveness of control and prevention interventions for neglected parasitoses
- Available data is likely to be of low quality which limits evidence-based recommendations for policy and practice
- Despite scarcity of good evidence cost-effective interventions could be identified for up-scaling

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Objectives

- Identification, description and analysis of relevant studies on:
 - African trypanosomiasis (sleeping sickness)
 - Leishmaniasis (all types)
 - Lymphatic filariasis
 - Schistosomiasis (all types)
- Content focus: Cost-effectiveness of prevention and control interventions

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Methods

- Literature search:
 - Databases: EconLit, Embase, HEED, ISI und PubMed using a systematic search strategy
- Study selection:
 - Independent review of abstracts by two evaluators according to defined inclusion and exclusion criteria
- Publication date: Jan 1980 to Dec 2004
- Only English-language publications

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Methods

➤ Review process:

- Descriptive analysis of extracted data
- Quantitative analysis of study quality using a specifically developed evaluation framework for economic evaluations
- Content analysis

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Results – Identified studies

➤ Identification of 20 economic evaluations:

- African trypanosomiasis: 2
- Leishmaniasis: 3
- Lymphatic filariasis: 4
- Schistosomiasis: 11

⇒ Small evidence base

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Results – Quality of studies

- Many quality deficits identified:
 - Study perspective not given
 - Time horizon of analysis
 - Cost analysis and calculations not transparent or correct (opportunity and marginal costs often lacking)
 - Discounting issues
 - Heterogenous outcome parameters
- ⇒ Study results of limited validity, comparability and generalizability

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Results – Content analysis

Lymphatic Filariasis, Schistosomiasis:

- Drug mass treatment
 - Proven safety and efficacy of medication (DEC, Praziquantel)
 - Distribution through community settings and public health services demonstrated
 - In particular in high prevalence areas highly cost-effective compared to other public health interventions
 - Preventive and curative effects at the same time
 - Average cost-effectiveness ratios between US\$ 2.42 to 4.20 per treated individual

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Results – Content analysis

African Trypanosomiasis, Leishmaniasis:

- Cost-effective, but highly toxic medications available (melarsoprol)
 - Average cost-effectiveness ratios between US\$ 8 to 18.4 per DALY
- Inpatient care results in high costs to system and patients
- Effective and safe *but* expensive medication (eflornithine) leads to allocative efficiency issues
 - Average cost-effectiveness ratio of US\$ 166.8 US\$ per DALY
 - For comparison: EPI approximately US\$ 11 per DALY

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Conclusions

- Although limited, there is data on the cost-effectiveness of prevention and control interventions for neglected parasitoses which should be used for decision-making
- However, need for:
 - Internationally agreed, standardised guidelines of good practice in economic evaluations
 - Increased use of multidimensional utility outcomes
 - Development of new cost-effective and safe medications and other strategies which can be implemented in community settings (intervention complexity)

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