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Review Article

Prevalence of scabies and oral health status among mentally retarded students: A cross-sectional screening study at a special needs camp

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Abstract

Background: Mentally retarded students represent a vulnerable population with unique health challenges, particularly in institutional or camp settings. Scabies, a contagious parasitic skin disease, and poor oral health are frequently observed in such populations due to a combination of behavioural, environmental, and systemic factors.

Objective: This review synthesizes current evidence on the prevalence of scabies and oral health status among mentally retarded students, with emphasis on findings from cross-sectional screening studies conducted at special needs camps.

Materials and Methods: Literature was reviewed using PubMed, Scopus, and Google Scholar for studies published between 2000 and 2025, focusing on scabies, oral health, and intellectual disability.

Results: Prevalence rates for scabies in institutionalized mentally retarded populations range from 10% to 30%, while poor oral health including high rates of dental caries and periodontal disease is consistently documented. Risk factors include overcrowding, poor hygiene, limited access to care, and lack of health education.

Conclusion: The dual burden of scabies and poor oral health in mentally retarded students highlights the need for integrated, multidisciplinary health interventions in special needs camps and institutions. Regular screening, health education, and improved access to care are essential for improving health outcomes in this vulnerable group.

Keywords: Scabies, Oral Health, Mentally Retarded Students, Intellectual Disability, Special Needs Camp, Cross-sectional Study, Prevalence, Institutionalized Population, Dental Caries, Hygiene

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1. Introduction

1.1. Intellectual disability and health vulnerabilities

Intellectual disability (ID) previously termed "mental retardation" is characterized by significant limitations in intellectual functioning and adaptive behavior, originating before the age of 18.[1] Individuals with ID often require specialized care and support, particularly in institutional or camp settings, where they may be exposed to additional health risks due to environmental and social factors.[2] In January 2025, a cross-sectional screening camp was conducted at a government hostel in Narkhed, Nagpur, Maharashtra, to assess the prevalence of scabies and oral health status among mentally retarded children. A total of 50 students residing at the hostel participated in this screening. The setting provided a unique opportunity to evaluate health challenges in a real-world institutional environment, where risk factors such as overcrowding, limited resources, and dependence on caregivers are prevalent.

Scabies is a parasitic skin infestation caused by *Sarcoptes scabiei var. hominis*, transmitted primarily through close personal contact.[3] It is highly prevalent in crowded settings with poor hygiene, such as residential care facilities and special schools.[4] Norwegian (crusted) scabies, a severe form, is particularly associated with immunocompromised and intellectually disabled individuals.[5] Oral health is a significant concern among individuals with intellectual disabilities. Studies consistently report higher rates of dental caries, periodontal disease, and poor oral hygiene in this population compared to neurotypical peers.[6-7] Barriers include limited self-care abilities, dependence on caregivers, and restricted access to dental

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services.[8] Individuals with intellectual disabilities often face notable challenges in maintaining good oral health. Research has shown that they experience a higher prevalence of dental problems such as tooth decay, gum disease, and inadequate oral hygiene when compared to individuals without disabilities. This disparity is largely due to factors like reduced ability to perform oral hygiene independently, reliance on caregivers for daily care, and limited availability or accessibility of dental services. Communication difficulties, behavioral issues, and a lack of awareness among both caregivers and healthcare professionals further complicate the situation. Additionally, routine dental visits are often overlooked due to logistical, financial, or systemic barriers. As a result, oral health becomes a neglected aspect of overall well-being in this population, despite its known impact on nutrition, speech, self-esteem, and general health. Addressing these challenges requires a multidisciplinary approach, with greater emphasis on inclusive policies, caregiver training, and tailored oral health programs.

2. Rationale for the Review

Despite the recognized vulnerabilities of mentally retarded students, few studies have comprehensively addressed the dual burden of scabies and poor oral health in this group, particularly in the context of special needs camps. This review aims to fill this gap by synthesizing current evidence and highlighting strategies for integrated health interventions.

3. Discussion

Epidemiology of Scabies in Mentally Retarded Students

Prevalence and Outbreaks

Scabies prevalence in institutionalized populations with intellectual disabilities is significantly higher than in the general population. Studies from India, Africa, and Europe have reported prevalence rates ranging from 10% to over 30% in residential schools and care homes for intellectually disabled individuals.[9-12] Outbreaks are frequently reported in such settings, often involving both classic and Norwegian scabies.[13] Key risk factors for scabies in this population include:

1. **Overcrowding:** Close living quarters facilitate rapid transmission.[14]
2. **Poor hygiene:** Limited self-care abilities and inadequate caregiver support contribute to increased risk.[15]
3. **Delayed diagnosis:** Atypical presentations and communication barriers can delay identification and treatment.[16]
4. **Limited access to healthcare:** Institutional settings may lack adequate medical resources.[17]

4. Clinical Features

Classic scabies presents as pruritic papules and burrows, while Norwegian scabies is characterized by thick crusts and high mite loads, often in immunocompromised or intellectually disabled individuals.[18] Secondary bacterial infections are common, leading to further complications.[19]

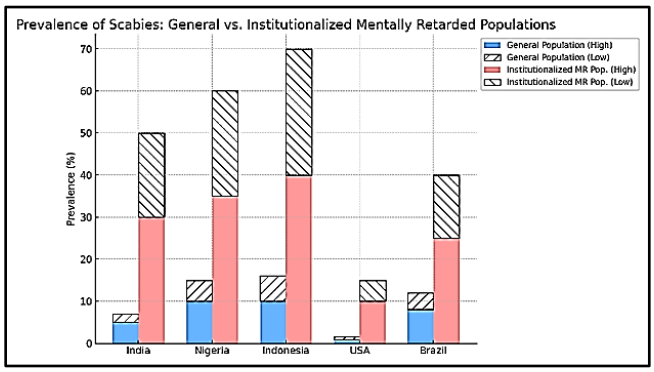

Figure 1: Prevalence of scabies in institutionalized mentally retarded populations

5. Epidemiology of Scabies and Oral Health at Narkhed Government Hostel

During the screening camp at the government hostel in Narkhed, Nagpur, all 50 mentally retarded children were examined for dermatological and oral health issues. The findings mirrored trends reported in the broader literature, with a high prevalence of scabies and poor oral health status observed among the participants. This underscores the vulnerability of institutionalized intellectually disabled populations to communicable skin diseases and dental problems, often exacerbated by environmental and behavioural risk factors present in such settings.

The camp's results reinforce the need for regular health screenings and integrated care in government hostels and similar institutions, as supported by state welfare initiatives and disability welfare schemes in the region.[4]

5.1. Prevalence of oral diseases

Numerous cross-sectional studies have documented poor oral health among intellectually disabled students:

1. **Dental caries:** Prevalence rates between 50% and 90%.[20-21]
2. **Periodontal disease:** High rates of gingivitis and periodontitis, often undiagnosed.[22]
3. **Poor oral hygiene:** High plaque and calculus indices.[23]
4. **Self-care limitations:** Many students are unable to perform adequate oral hygiene due to cognitive and motor impairments.[24]
5. **Dependence on caregivers:** Quality of oral care is often dependent on caregiver knowledge and motivation.[25]

6. **Dietary habits:** High sugar intake and cariogenic diets are common in institutional settings.[26]
7. **Medication side effects:** Many psychotropic medications cause xerostomia, increasing caries risk.[27]

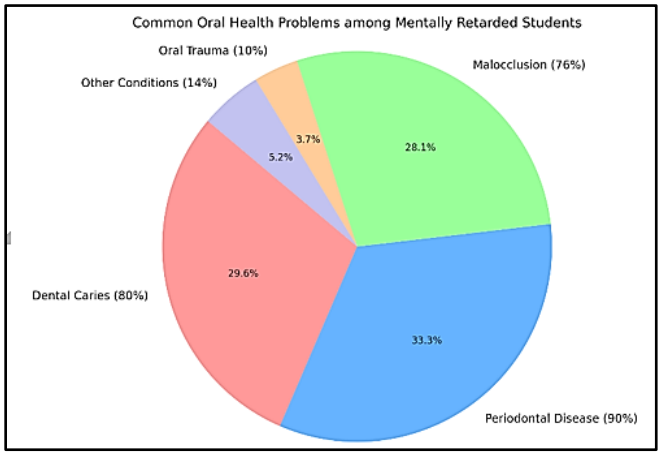

Figure 2: Common oral health problems among mentally retarded students

6. Interrelationship between Scabies and Oral Health

Both scabies and poor oral health share common risk factors, including:

1. **Environmental condition:** Overcrowding and poor sanitation increase the risk of both conditions.[28]
2. **Hygiene practices:** Inadequate personal and oral hygiene are major contributors.[29]
3. **Limited health education:** Lack of awareness among students and caregivers impedes prevention efforts.[30]

The dual burden of these conditions can lead to significant morbidity, including discomfort, social stigma, and reduced quality of life. Secondary infections, both cutaneous and oral, may further complicate management.

7. Screening and Prevention Strategies

7.1. Cross-sectional screening studies

Cross-sectional screening is an effective method for assessing the prevalence of scabies and oral health problems in special needs populations. Such studies provide valuable data for planning targeted interventions.[31]

1. **Regular screening:** Dermatological and dental check-ups should be routine in special needs camps and institutions.[32]
2. **Health education:** Training for caregivers and staff on hygiene, early signs of disease, and preventive measures is essential.[33]
3. **Environmental improvements:** Reducing overcrowding, improving sanitation, and ensuring access to clean water are critical.[34]
4. **Access to care;** Facilitating timely access to medical and dental services can prevent complications.[35]

7.2. Treatment protocols

1. **Scabies:** Topical permethrin or oral ivermectin are effective treatments; all close contacts should be treated simultaneously.[36]
2. **Oral health:** Preventive dental care, including fluoride applications and oral hygiene instruction, is recommended.[37]

8. Challenges and Future Directions

Students with intellectual disabilities who live in government hostels or special schools often face two major health challenges: scabies and poor oral hygiene. These issues are difficult to manage due to a lack of proper facilities, limited funding, and shortage of trained healthcare staff. Many institutions are not equipped to provide regular health check-ups or timely treatment. Frequent staff turnover and caregivers with little or no training further reduce the quality of care. Because these students may struggle to communicate their symptoms clearly, health problems often go unnoticed and untreated. In addition, there is a lack of awareness and social acceptance of the health needs of intellectually disabled individuals, which results in their needs being overlooked in public health policies. To address these challenges, there is a need for health programs that bring together dentists, dermatologists, paediatricians, and mental health experts. Governments should allocate funds specifically for improving hostel conditions, training staff, and conducting regular health screenings. Caregivers should be trained to recognize basic signs of skin and dental problems and to maintain good hygiene routines. Teaching student simple habits related to cleanliness and oral care can also help prevent diseases. The use of telemedicine and digital health records can improve access to specialist care, especially in remote areas. Long-term research is also necessary to understand the impact of these programs and to develop better strategies for improving the overall health of this vulnerable population. By taking these steps, we can help ensure that students with intellectual disabilities receive the care they need to live healthier and more comfortable lives.

9. Barriers to Implementation

1. **Resource limitations:** Many institutions lack the resources for regular screening and treatment.[38]
2. **Caregiver turnover:** High staff turnover can disrupt continuity of care.[39]
3. **Stigma and discrimination:** Social stigma may prevent affected individuals from seeking care.[40]

9.1. Research gaps

Longitudinal studies: Few studies have assessed the long-term impact of integrated interventions.
Interventional research: More research is needed on the effectiveness of combined dermatological and dental health programs.

10. Conclusion

Students with intellectual disabilities residing in institutional settings face a significant dual burden of scabies and poor oral health, both of which are exacerbated by environmental, behavioural, and systemic barriers. This review and screening study underscore the urgent need for integrated health interventions that encompass dermatological and dental care. Regular health screenings, staff and caregiver training, hygiene promotion, and timely treatment can reduce the morbidity associated with these conditions. Additionally, policy-level changes and funding allocation are vital for sustainable improvements. Future research should focus on longitudinal studies to assess the impact of integrated programs and explore scalable strategies to improve health outcomes in this highly vulnerable population. Policy makers should prioritize funding and support for integrated health programs in institutions and camps serving intellectually disabled population.

Mentally retarded students in special needs camps and institutions face a disproportionate burden of scabies and poor oral health. Cross-sectional screening studies reveal high prevalence rates for both conditions, driven by overlapping environmental and behavioural risk factors. Integrated, multidisciplinary health interventions including regular screening, health education, and improved access to care are essential for reducing morbidity and improving quality of life in this vulnerable population. Future research should focus on evaluating the long-term effectiveness of such interventions and addressing barriers to implementation.

11. Source of Funding

None.

12. Conflict of Interest

None.

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