



Health care and therapies for children in India: A comprehensive review

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Abstract

This review paper examines the health care landscape and therapeutic practices for children in India, highlighting the critical importance of addressing paediatric health in a rapidly developing nation. Despite significant progress in recent years, challenges such as high rates of malnutrition, infectious diseases, and inadequate mental health services persist. The paper discusses the existing health care framework, including government initiatives and the role of private and non-governmental organizations. Additionally, it explores common health issues faced by children and the range of therapeutic approaches available, from conventional medicine to alternative therapies. The impact of socio-economic factors on child health and access to care is critically analysed, alongside emerging trends such as telemedicine and community-based health programs. Finally, the paper offers policy recommendations aimed at enhancing paediatric health services and promoting holistic well-being for children across diverse regions of India. This review underscores the urgent need for a multi-faceted approach to improve health outcomes for the younger population, ensuring a healthier future for the nation.

Keywords: Health care, therapies, children in India

Introduction

Importance of child health in overall development

Child health is a cornerstone of societal progress and development, as healthy children are more likely to grow into productive adults. Early childhood is a critical period where physical, cognitive, and emotional health lays the foundation for lifelong well-being. Ensuring optimal health and nutrition during this stage is essential for reducing mortality rates, preventing chronic diseases, and enhancing educational outcomes. Investing in child health not only benefits individuals but also contributes to economic growth and social stability, as a healthy population is better equipped to contribute to the workforce and engage in community development.

Overview of the health care system in India, focusing on paediatric care

India's health care system is a complex amalgamation of public and private providers, with significant regional disparities in service availability and quality. The government has implemented various programs aimed at improving child health, such as the National Health Mission (NHM), which emphasizes maternal and child health services. Despite these efforts, challenges remain, including inadequate infrastructure, a shortage of trained paediatric healthcare professionals, and limited access to essential services in rural areas.

Paediatric care in India is characterized by a dual system: a public health sector that often faces resource constraints and a burgeoning private sector that offers advanced care but can be prohibitively expensive for many families. This landscape creates significant barriers to accessing quality health services, particularly for marginalized communities. The prevalence of communicable diseases, malnutrition, and increasing rates of non-communicable diseases among children highlights the urgent need for comprehensive health care solutions.

Objectives of the review

This review aims to:

- 1. Examine the current state of paediatric health care in India:** Assess existing health care frameworks, policies, and programs designed to support child health.
- 2. Identify common health issues:** Highlight the major health challenges faced by children in India, including both communicable and non-communicable diseases.
- 3. Evaluate therapeutic approaches:** Analyse the range of therapies available, including conventional, alternative, and preventive measures.
- 4. Discuss challenges and barriers:** Explore socio-economic, geographic, and systemic factors that impede access to health care for children.
- 5. Highlight innovations and trends:** Investigate emerging practices and technologies that may enhance paediatric care delivery.
- 6. Provide policy recommendations:** Suggest actionable strategies to improve health outcomes for children in India, focusing on equity and accessibility.

By addressing these objectives, the review seeks to provide a comprehensive understanding of the health care landscape for children in India and promote informed discussions on improving paediatric health services.

Current health care framework for children

Description of government initiatives

The Indian government has implemented several key initiatives aimed at improving child health care, with the National Health Mission (NHM) being one of the most significant. Launched in 2013, the NHM focuses on strengthening healthcare delivery in rural and urban areas,

particularly for vulnerable populations. Key components include:

- **Maternal and Child Health (MCH) Services:** Emphasizing prenatal and postnatal care, immunization programs, and nutritional support for mothers and children.
- **Integrated Child Development Services (ICDS):** A program that provides food, preschool education, and health services to children under six and their mothers, aiming to reduce malnutrition and promote early childhood development.
- **National Immunization Program (NIP):** Ensures children receive essential vaccinations to protect against preventable diseases.
- **Rashtriya Bal Swasthya Karyakram (RBSK):** Focuses on screening and early intervention for childhood diseases and disabilities, promoting comprehensive health care for children from birth to 18 years.

These initiatives are supported by various state-level programs, aiming to adapt strategies to local health needs and challenges.

Role of private sector and NGOs in child health care

The private sector plays a crucial role in providing paediatric health care, particularly in urban areas where demand often exceeds public service capacity. Private hospitals and clinics often offer advanced diagnostic and treatment facilities, though access can be limited by cost. Non-governmental organizations (NGOs) are also instrumental in addressing child health issues, particularly in underserved regions. They engage in various activities, such as:

- **Health education:** Raising awareness about child nutrition, hygiene, and preventive care.
- **Community health initiatives:** Implementing programs that focus on maternal and child health, including mobile health clinics and community health workers.
- **Research and advocacy:** Conducting studies on child health issues and advocating for policy changes to improve health care access and quality.

Together, the private sector and NGOs complement government efforts, providing innovative solutions and reaching communities that may be overlooked by traditional health care systems.

Availability of paediatric hospitals and clinics

The availability of paediatric hospitals and clinics in India varies significantly between urban and rural areas:

- **Urban areas:** Generally, have a higher concentration of paediatric hospitals and specialized clinics, offering comprehensive services, including emergency care, surgeries, and specialist consultations. Major cities often feature well-equipped hospitals with trained paediatricians and subspecialists.

- **Rural areas:** Face significant challenges, with fewer facilities and limited access to specialized care. Many rural health centers may lack paediatric services, forcing families to travel long distances for treatment. This gap highlights the need for targeted interventions to improve access to quality paediatric care in these regions.

Efforts are being made to enhance paediatric care infrastructure through public-private partnerships and community health programs, but disparities remain a significant challenge that requires ongoing attention and resources. In conclusion, while the health care framework for children in India has seen advancements through government initiatives, the active involvement of the private sector and NGOs is vital for addressing existing gaps and improving overall health outcomes.

Common health issues in children

Overview of prevalent diseases

1. Malnutrition

- Malnutrition remains one of the most pressing health issues for children in India, affecting their physical and cognitive development. It includes both undernutrition (stunting, wasting) and micronutrient deficiencies (e.g., iron, vitamin A).
- According to recent surveys, a significant percentage of children under five years are stunted or wasted, leading to long-term health consequences, including increased susceptibility to infections and impaired cognitive function.

2. Respiratory infections

- Acute respiratory infections (ARIs), including pneumonia, are among the leading causes of morbidity and mortality in children. Contributing factors include indoor air pollution from cooking fuels, crowded living conditions, and lack of access to timely medical care.
- Vaccination programs, such as those for pneumococcal disease, aim to reduce the burden of respiratory infections, but challenges remain in achieving universal coverage.

3. Diarrheal diseases

- Diarrhoea is a major cause of illness and death in children under five, often linked to inadequate water, sanitation, and hygiene (WASH) practices. Rotavirus is a leading viral cause of severe diarrhoea in this age group.
- The introduction of oral rehydration solutions (ORS) and vaccines has helped decrease mortality rates, but continued efforts are needed to improve hygiene and sanitation facilities.

Discussion of non-communicable diseases

1. Obesity

- The prevalence of childhood obesity is rising in urban India, driven by factors such as poor dietary habits, increased consumption of processed foods, and sedentary lifestyles.
- Obesity is associated with a range of health issues, including hypertension, diabetes, and psychological problems. Awareness campaigns and school-based programs promoting healthy eating and physical activity are critical in combating this trend.

2. Diabetes

- Type 2 diabetes is increasingly being diagnosed in children and adolescents, particularly in urban areas. Contributing factors include obesity, genetic predisposition, and lifestyle changes.
- Early detection and management are crucial, as diabetes can lead to severe complications if not addressed. Education on lifestyle modifications, including diet and exercise, is essential for prevention and management.

3. Mental health issues

- Mental health challenges among children are gaining recognition, with increasing rates of anxiety, depression, and behavioural disorders. Factors such as academic pressure, family dynamics, and social issues contribute to these conditions.
- Access to mental health services remains limited, and there is a pressing need for schools and communities to implement supportive programs that promote mental well-being.

Addressing the common health issues faced by children in India requires a multi-faceted approach that includes improving nutrition, enhancing access to health care, and promoting awareness of non-communicable diseases. By tackling these challenges, India can ensure a healthier future for its younger population and lay the groundwork for sustainable development.

Therapeutic approaches

Conventional therapies

1. Vaccinations

- Vaccination is a cornerstone of paediatric health care in India, aimed at preventing communicable diseases such as measles, polio, and hepatitis. The National Immunization Schedule outlines the essential vaccines for children, significantly reducing morbidity and mortality rates.
- Efforts to increase vaccination coverage, particularly in rural and underserved areas, have been pivotal in combating outbreaks and ensuring herd immunity.

2. Medications

- Conventional medications are prescribed for various paediatric conditions, including antibiotics for bacterial infections, antipyretics for fever, and antiasthmatic medications for respiratory issues.
- Access to essential medications remains a challenge in some regions, necessitating efforts to ensure availability and affordability through public health programs and community pharmacies.

3. Nutritional interventions

- Therapeutic feeding programs and supplementation are critical for addressing malnutrition. Initiatives such as the Integrated Child Development Services (ICDS) provide fortified foods and nutritional education to families.
- Regular monitoring of growth and development is essential to identify and address nutritional deficiencies early.

Alternative therapies

1. Ayurveda

- Ayurveda, an ancient Indian system of medicine, offers holistic approaches to health, emphasizing the balance of body, mind, and spirit. Ayurvedic treatments may include herbal remedies, dietary adjustments, and lifestyle modifications tailored to individual needs.
- While some families turn to Ayurveda for chronic conditions or preventive care, it is crucial to ensure that these practices complement, rather than replace, conventional medical care.

2. Homeopathy

- Homeopathy is another alternative therapy gaining popularity among parents seeking natural remedies for common ailments in children. It operates on the principle of treating “like with like” and utilizes highly diluted substances.
- Although some parents report positive outcomes, scientific evidence supporting homeopathy's efficacy is limited, necessitating a cautious and informed approach.

Importance of preventive care and health education

1. Preventive care

- Preventive care encompasses a range of activities aimed at reducing the risk of diseases and promoting overall health. Regular check-ups, vaccinations, and health screenings play a crucial role in identifying potential health issues early.
- Programs focusing on nutrition, hygiene, and physical activity are vital in preventing both communicable and non-communicable diseases among children.

2. Health education

- Health education for parents and children is essential for fostering awareness about nutrition, hygiene practices, and the importance of regular health check-ups. Educational initiatives can empower families to make informed decisions about health and well-being.
- Schools can serve as effective platforms for health education, integrating topics such as mental health, nutrition, and physical fitness into the curriculum to instil healthy habits from an early age.

A multi-faceted approach to therapeutic practices, encompassing both conventional and alternative therapies, along with a strong emphasis on preventive care and health education, is crucial for improving child health outcomes in India. By combining these strategies, health care providers can address the diverse needs of children, ensuring their holistic development and well-being.

Mental health services

Overview of mental health challenges among children

Children in India face a range of mental health challenges, with increasing rates of anxiety, depression, behavioural disorders, and stress-related issues. Factors contributing to these challenges include:

- **Academic pressure:** The competitive nature of education often leads to immense stress and anxiety among children and adolescents, with high expectations from parents and society.

- **Family dynamics:** Issues such as family conflict, parental neglect, or trauma can significantly impact a child's mental health.
- **Social influences:** Bullying, peer pressure, and social isolation, particularly in the digital age, contribute to feelings of anxiety and depression.
- **Socio-economic factors:** Poverty, lack of access to resources, and unstable living conditions exacerbate mental health issues, making it difficult for families to seek help.

Early identification and intervention are crucial for addressing these challenges, yet many children remain undiagnosed and untreated.

Availability of psychological support and counselling services

The availability of mental health services for children in India is limited, particularly in rural areas:

- **Public sector services:** Government initiatives often lack adequate resources and trained professionals to address mental health needs. While some hospitals offer psychiatric services, many families do not have access to these facilities.
- **Private sector and NGOs:** Some private clinics and NGOs provide psychological support and counselling services, but these can be costly and may not be accessible to all families. Initiatives by NGOs often focus on outreach and community-based support.
- **Teletherapy:** The rise of telemedicine has expanded access to mental health care, allowing children and families to seek support remotely. However, awareness and trust in these services vary.

Despite these efforts, a significant gap remains in the provision of adequate mental health resources, especially in underserved regions.

Role of schools in mental health awareness

Schools play a critical role in promoting mental health awareness and support among children:

- **Early identification:** Educators can identify early signs of mental health issues and refer students for appropriate support. Training teachers to recognize these signs is essential.
- **Mental health education:** Incorporating mental health education into the curriculum can help destigmatize mental health issues and promote understanding among students. Programs that focus on coping strategies, emotional resilience, and stress management can empower children.
- **Counselling services:** Some schools are beginning to integrate counselling services, providing students with access to mental health professionals. School counsellors can offer support, guidance, and resources to students facing challenges.

- **Parental involvement:** Schools can engage parents through workshops and seminars to raise awareness about mental health and the importance of supportive family environments.

Addressing mental health challenges among children in India requires a multi-faceted approach, combining increased availability of psychological support services with proactive mental health education in schools. By fostering a supportive environment and promoting awareness, communities can better equip children to navigate their mental health challenges, ultimately leading to healthier outcomes for future generations.

Challenges in paediatric health care

Access and affordability of services

Access to paediatric health care remains a significant challenge in India. Key issues include:

- **Cost of care:** Many families struggle to afford private health care, which can be prohibitively expensive. Even basic consultations, treatments, and medications can impose a financial burden, leading some families to forgo necessary medical care.
- **Limited public health resources:** Public health facilities often face overcrowding, long wait times, and shortages of essential medicines and supplies. This discourages families from seeking care, especially for non-emergency situations.
- **Transportation barriers:** In rural and remote areas, access to health care facilities can be hampered by poor transportation infrastructure, making it difficult for families to reach hospitals or clinics.

Regional disparities in health care availability

There are stark regional disparities in the availability of paediatric health care services across India:

- **Urban vs. rural divide:** Urban areas typically have better access to specialized paediatric services, including hospitals with advanced facilities and a greater number of qualified healthcare professionals. In contrast, rural regions often lack basic health care infrastructure, leading to inadequate services for children.
- **State variations:** Health care availability and quality vary significantly between states, influenced by local governance, funding, and health policies. Some states have made substantial progress in child health initiatives, while others lag behind.
- **Inequities in resource distribution:** Health care resources, including hospitals and trained personnel, are often concentrated in metropolitan areas, leaving many rural populations underserved.

Impact of socio-economic factors on child health

Socio-economic factors play a critical role in influencing child health outcomes in India:

- **Poverty:** Families living in poverty face multiple challenges, including malnutrition, inadequate sanitation, and limited access to health care. These conditions significantly increase the risk of illness and poor health outcomes for children.

- **Education and awareness:** Parents' educational levels often correlate with their understanding of health care needs, nutrition, and preventive measures. Lower levels of education can hinder effective health-seeking behaviours and lead to reliance on traditional practices over evidence-based medical care.
- **Cultural beliefs and practices:** Cultural attitudes toward health care, including stigma surrounding mental health or reluctance to seek conventional medical treatment, can impede access to necessary services.
- **Nutrition and living conditions:** Poor living conditions, including overcrowding and lack of clean water, contribute to the prevalence of infectious diseases, malnutrition, and related health issues.

The challenges in paediatric health care in India are multifaceted, encompassing issues of access, affordability, regional disparities, and socio-economic influences. Addressing these challenges requires comprehensive policies and community-driven initiatives to enhance health care infrastructure, promote equitable access, and improve overall child health outcomes. By focusing on these areas, India can work towards a healthier future for its children.

Innovations and emerging trends

Telemedicine and its impact on paediatric care

Telemedicine has emerged as a transformative approach to paediatric health care in India, particularly in the wake of the COVID-19 pandemic. Key benefits include:

- **Increased access:** Telemedicine bridges the gap for families in remote or underserved areas, allowing them to consult with paediatricians and specialists without the need for extensive travel.
- **Convenience:** Parents can schedule virtual appointments at their convenience, reducing time away from work and minimizing the logistical challenges associated with in-person visits.
- **Continuity of care:** Telemedicine facilitates ongoing monitoring and follow-up care for chronic conditions, ensuring children receive consistent management and support.
- **Cost-effectiveness:** Virtual consultations often come at a lower cost than traditional visits, making health care more affordable for many families.

However, challenges such as limited internet access, technological literacy, and concerns about the quality of care provided remotely remain important considerations.

Role of technology in health monitoring

Technological advancements are revolutionizing health monitoring for children, with tools such as:

- **Wearable devices:** Smartwatches and fitness trackers enable real-time monitoring of vital signs, physical activity, and sleep patterns. These devices can help parents track their children's health and promote active lifestyles.

- **Mobile health apps:** Apps that track nutrition, vaccination schedules, and growth metrics empower parents with information to make informed health decisions. Some apps also offer reminders for medications and appointments.
- **Remote monitoring solutions:** Technologies that allow for remote monitoring of chronic conditions (e.g., asthma, diabetes) can help paediatricians manage care more effectively, reducing emergency visits and hospitalizations.

While these technologies hold promise, issues related to data privacy, accessibility, and the need for parental oversight are crucial to address.

Community-based health programs and their effectiveness

Community-based health programs have shown significant effectiveness in addressing paediatric health challenges through localized interventions:

- **Integrated health services:** Programs that combine maternal and child health services, nutrition education, and preventive care have successfully reduced malnutrition and improve health outcomes in communities.
- **Outreach and education:** Mobile health units and community health workers play a vital role in educating families about hygiene, nutrition, and preventive health measures, helping to bridge gaps in knowledge and resources.
- **Local partnerships:** Collaborations between government, NGOs, and local organizations enhance the reach and impact of health programs, ensuring they are culturally relevant and tailored to community needs.

These programs often result in improved health literacy, increased vaccination rates, and better management of common childhood illnesses. Innovations such as telemedicine, wearable technology, and community-based health programs are reshaping paediatric health care in India. By leveraging these advancements, the health care system can enhance accessibility, improve health monitoring, and foster community engagement, ultimately leading to better health outcomes for children. As these trends continue to evolve, it is crucial to address challenges and ensure equitable access to these innovations across all segments of the population.

Policy recommendations

Need for strengthening public health infrastructure

1. Investment in health facilities

- Increase funding for the construction and upgrading of paediatric hospitals and health centers, particularly in rural and underserved areas. Ensuring these facilities are well-equipped and staffed with trained paediatric professionals is essential.

2. Human resource development

- Implement targeted training programs to enhance the skills of healthcare workers in paediatric care. This includes ongoing professional development and recruitment of paediatric specialists in both public and private sectors.

3. Integrating health services

- Promote a holistic approach by integrating maternal and child health services, nutrition programs, and mental health support within public health facilities to provide comprehensive care.

Strategies for improving access to quality care

1. Affordable health care initiatives

- Implement policies to subsidize the cost of paediatric services, including consultations, medications, and preventive care. This could involve partnerships with private healthcare providers to create affordable care packages.

2. Telemedicine expansion

- Support the widespread adoption of telemedicine services by investing in technology infrastructure, particularly in rural areas. Training healthcare professionals in telehealth practices will also enhance service delivery.

3. Transportation and mobility solutions

- Develop community transport programs to assist families in accessing healthcare facilities, particularly in remote areas. Mobile health clinics can also be utilized to bring services directly to underserved populations.

Importance of community involvement and education

1. Community health worker programs

- Empower local health workers to educate families about child health issues, nutrition, and preventive care. These workers can serve as trusted sources of information and help bridge the gap between families and healthcare services.

2. School-based health education

- Integrate health education into school curricula to promote awareness of health issues, hygiene practices, and mental health. Workshops for parents and caregivers can also reinforce these messages at home.

3. Public awareness campaigns

- Launch campaigns to raise awareness about available health services, the importance of vaccinations, and healthy lifestyle choices. Utilizing social media and community events can enhance outreach and engagement.

Implementing these policy recommendations can significantly enhance paediatric health care in India. By strengthening public health infrastructure, improving access to quality care, and fostering community involvement and education, the government and health organizations can create a more equitable and effective health care system for children. These strategies are vital for ensuring the well-being of future generations and promoting sustainable development in the country.

Conclusion

This review has highlighted the critical state of paediatric health care in India, emphasizing the multifaceted challenges faced by children, including high rates of malnutrition, increasing mental health issues, and significant disparities in access to quality services. Government initiatives, while essential, are often insufficient to meet the diverse needs of the population, particularly in underserved

regions. The roles of the private sector, NGOs, and emerging technologies such as telemedicine and health monitoring tools present promising avenues for improving care but must be supported by strong public health infrastructure.

Key findings include

1. **High prevalence of health issues:** Children in India face significant health challenges, including malnutrition, respiratory infections, and rising rates of obesity and mental health disorders.
2. **Access barriers:** Economic, geographical, and infrastructural barriers severely limit access to necessary paediatric services, particularly in rural areas.
3. **Emerging innovations:** Telemedicine and community-based health programs are making strides in enhancing care delivery and accessibility but require broader implementation and support.
4. **Community engagement:** Empowering communities through education and involvement is essential for fostering better health practices and outcomes for children.

In light of these findings, a call to action is imperative

- Policymakers must prioritize child health in national and state health agendas, allocating necessary resources and fostering collaborations across sectors to enhance service delivery.
- Healthcare providers should embrace innovative practices, including telehealth and community outreach, to ensure that all children receive timely and effective care.
- Communities must be engaged in health education and decision-making processes to empower families and promote healthy practices at the grassroots level.

By collectively prioritizing child health, we can pave the way for a healthier future for India's children, ensuring they have the opportunity to thrive and contribute positively to society. The commitment to improving paediatric health care is not only a moral imperative but also a critical investment in the nation's future.

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