

Chronic Illness in Adolescents

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ABSTRACT

New generation chronic illness consumers prove to be a major concern for public health systems, especially in L&M INs including India. As indicated by the write up, this paper looks at the prevalence, impact, and the recurrence of steady circumstances inclusive of respiratory issues like asthma, diabetes, and prevalent emotional well-being challenge modulo young Indian people. Such issues are aggravated by aspects that include fast urbanization, changing living standards, and financial pressures which lead to a range of physical, psychological, and social challenges. The review also stresses the need for integrated health care systems, prevention and on-going health care reforms, early interventions, and programs at home and in the global setting for the well-being of adolescents. The following issues have to be addressed to decrease the negative impact of chronic illness and enhance adolescents' future in India

Keyword: *Chronic illness, Adolescents, Non-communicable diseases, Mental health, Diabetes, Asthma, Quality of life.*

1. INTRODUCTION

Adolescence is a crucial phase marked by rapid physical, emotional, and mental development. It brings both opportunities and vulnerabilities, particularly for youth with chronic illnesses. These long-term conditions, defined by persistent symptoms lasting over a year, significantly impact adolescents' growth, social life, academics, and overall well-being—especially in low- and middle-income countries like India, where healthcare access and socio-economic challenges worsen the situation (Sawyer et al., 2007).

In India, noncommunicable diseases (NCDs) such as asthma, diabetes, obesity, and mental health disorders are rising among teens, driven by urbanization, poor diets, sedentary lifestyles, and environmental hazards (Jindal et al., 2012). Limited healthcare, poverty, and lack of education further compound these issues. Rural youth, in particular, face barriers to diagnosis and treatment due to poor mental health services (Patel et al., 2007).

Managing chronic illness during adolescence is complex, as teens seek independence and social acceptance. Daily management of conditions like asthma or diabetes can isolate them, affect self-esteem, and lead to emotional distress (Russell et al., 2012). Mental health issues are often stigmatized, worsening their situation (Patton et al., 2016). The long-term strain affects education, job prospects, and family finances—particularly where healthcare costs are high and insurance is limited (Jin et al., 2017). This review aims to explore the prevalence, impact, and management challenges of chronic illness in adolescents, especially in India, calling for integrated strategies involving healthcare reform, early intervention, and youth-focused policies (WHO, 2010).

1.1 Definition of Chronic Illness

Chronic illnesses, as defined by the CDC, last at least a year and require ongoing medical care or limit daily activities (CDC, 2021). These include physical conditions like diabetes, asthma, and heart disease, as well as mental health issues such as depression and anxiety. Neurodevelopmental disorders like ADHD and autism spectrum disorders are also included (Watson et al., 1998). Globally, 15–20% of children and adolescents have chronic conditions needing specialized care, with rates rising in India due to urbanization, lifestyle changes, and environmental stressors (Jindal et al., 2012)

2. REVIEW OF HEMATOLOGIC DISORDERS IN ADOLESCENTS

Hematologic disorders like thalassemia, sickle cell anemia, and hemophilia are chronic conditions that heavily impact

adolescents, requiring lifelong care. This review examines recent research on treatment advancements and challenges, especially in low-resource settings.

Thalassemia

Beta-thalassemia, a genetic disorder that reduces hemoglobin production, is common in South Asia and the Mediterranean.

- *Treatment:* Regular blood transfusions and iron chelation are standard but have risks like infections and iron overload. Bone marrow transplants (BMT) offer a potential cure but are limited by cost and donor availability (Cappellini et al., 2014).
- *Gene Therapy:* Lentiviral gene addition therapy shows promise (Thompson et al., 2021), but its scalability is limited by infrastructure and economic barriers in regions like India.
- *Challenges:* Early diagnosis is poor in rural areas, and psychosocial support for adolescents undergoing frequent transfusions is inadequate (Kattamis et al., 2020).

SickleCellAnemia

This inherited disorder leads to misshapen red blood cells, causing chronic pain, anemia, and infection risks, especially in Africa, the Middle East, and India.

- *Treatment:* Hydroxyurea and transfusions help manage symptoms but are often inaccessible in low-resource areas (Ware et al., 2017; Vichinsky et al., 2015).
- *Curative Option:* Stem cell transplants offer a cure but are limited by donor availability and procedural risks (Walters et al., 2020).
- *Challenges:* Adolescents face pain, stigma, and mental health issues. Public health awareness and better care access are urgently needed (Treadwell et al., 2016; Patel et al., 2020).

Hemophilia

This genetic bleeding disorder is classified as Hemophilia A or B.

- *Treatment:* Factor replacement therapy is the mainstay but is expensive and limited in low-income areas. Prophylactic treatment is effective in wealthier regions (Srivastava et al., 2020; Berntorp et al., 2019).
- *Gene Therapy:* AAV-based therapies show promise for long-term clotting factor production (George et al., 2021), though still in trials.
- *Challenges:* India lacks sufficient treatment centers, and factor access is poor in rural areas. Psychosocial challenges, especially around physical activity, are often overlooked (Buchbinder et al., 2016).

While advances in gene therapy and transplantation have improved outcomes, access remains a major hurdle in countries like India. Bridging gaps in diagnosis, treatment, and psychosocial support is essential. Future research should focus on affordable therapies and integrated adolescent care in resource-limited settings.

3. CHRONIC DISORDERS OCCURRING IN ADOLESCENTS

Table 1: Common Types of Chronic Disorders in Adolescents

Chronic Disorder Type	Examples	Brief Description
Endocrine Disorders	Diabetes Mellitus (Type 1 & Type 2)	A condition where the body either doesn't produce enough insulin (Type 1) or can't use it effectively (Type 2).
Respiratory Disorders	Asthma, Cystic Fibrosis	Chronic inflammation of the airways in asthma; CF causes mucus buildup, affecting lungs and digestive system.
Hematologic Disorders	Thalassemia, Sickle Cell Anemia, Hemophilia	Disorders related to blood, including abnormal hemoglobin production or blood clotting issues.
Mental Health Disorders	Depression, Anxiety, ADHD, Autism Spectrum Disorder	Conditions affecting mood, behavior, and cognitive function, impacting overall mental health.
Cardiovascular Diseases	Hypertension, Congenital Heart Defects	Heart-related conditions that can affect blood pressure, heart function, and overall cardiovascular health.

Developmental Disorders	Autism Spectrum Disorder (ASD), attention deficit hyperactivity disorder (ADHD)	Disorders affecting learning, behavior, and development, impacting social and academic life.
Autoimmune Disorders	Juvenile Rheumatoid Arthritis	A condition where the immune system attacks the body's tissues, causing joint inflammation and other symptoms.

4. DIABETES MELLITUS (DM)

Diabetes mellitus is a growing health concern among adolescents worldwide, especially in countries like India where both Type 1 and Type 2 diabetes are increasing. Type 1 diabetes, an autoimmune disorder, destroys insulin-producing beta cells, requiring lifelong insulin therapy (Wu et al., 2022). Type 2 diabetes, once seen only in adults, is now common in teens, particularly in urban areas. Linked to obesity, poor diet, and inactivity, it involves insulin resistance. While severe cases may need insulin, most can be managed with lifestyle changes and medication (Wu et al., 2022).

4.1 Pathophysiology:

Pathophysiology:

Type 1 diabetes results from autoimmune destruction of pancreatic beta cells, leading to little or no insulin production. Without insulin, glucose accumulates in the blood, causing hyperglycemia and complications like ketoacidosis (Moran et al., 1999). In Type 2 diabetes, insulin resistance prevents effective glucose absorption. Initially, the pancreas compensates by producing more insulin, but over time it fails, resulting in high blood sugar (Wu et al., 2022).

Prevalence:

Globally, diabetes in youth is rising. The International Diabetes Federation (IDF) reports 1.1 million people under 19 live with Type 1 diabetes (IDF, 2021). Type 2 diabetes, once rare in children, is increasing due to urbanization and lifestyle changes, particularly in low- and middle-income countries like India (IDF, 2021). Obesity is a major risk factor, and its growth has made diabetes a major public health issue (Kumar et al., 2021).

Indian Scenario:

India is at the forefront of the diabetes epidemic, projected to have the highest number of diabetics by 2050 (Chandra et al., 2019). Urban youth are especially affected due to poor diet, inactivity, and obesity. Many develop insulin resistance and Type 2 diabetes early, often alongside hypertension and dyslipidaemia, raising cardiovascular risk (Kumar et al., 2021). Healthcare infrastructure struggles to manage this burden. Costs of insulin, medications, and regular monitoring strain families, particularly in rural areas with limited access and awareness (Wu et al., 2022). Poor management can lead to severe complications like retinopathy, nephropathy, and ketoacidosis (Moran et al., 1999).

Psychosocial Aspects:

Adolescents with diabetes face emotional challenges in balancing disease management with growing independence and social development. Daily treatment routines can feel burdensome, and stigma may lead to anxiety, depression, and isolation, especially in low-resource settings (Patton et al., 2016). Peer pressure and school demands often disrupt adherence to treatment, risking poor glycemic control and complications (Russell et al., 2012).

Cystic Fibrosis (CF):

CF is a life-limiting genetic disorder affecting lungs and digestion, caused by mutations in the CFTR gene. This leads to thick mucus buildup, especially in the lungs and pancreas (Jesudason et al., 2023). While common in Caucasians (1 in 2,500 births; Dodge et al., 1997), CF is underdiagnosed in India due to low awareness and diagnostic limitations. Recent studies suggest higher prevalence among Indian populations than previously assumed, and recognition is gradually improving (Jesudason et al., 2023).

5. PATHOPHYSIOLOGY:

Cystic Fibrosis (CF)

CF affects multiple organs due to mutations in the CFTR gene, disrupting chloride and sodium transport. This causes thick mucus that clogs airways, leading to infections, inflammation, and long-term lung damage like bronchiectasis. In the digestive system, mucus blocks enzyme release, leading to malnutrition and poor growth (Jesudason et al., 2023). CF also impacts the reproductive system, liver, and intestines.

Prevalence:

CF is most common in people of European descent, with a prevalence of 1 in 2,500 among Caucasians (Dodge et al., 1997). In India, CF is underdiagnosed due to limited awareness, lack of diagnostic tools like sweat chloride tests, and symptom overlap with tuberculosis or asthma (Jesudason et al., 2023). Diagnostic gaps persist, especially in rural areas. However, increased reporting among Indian-origin populations abroad suggests underestimation of its prevalence in India. Growing

awareness has led to better diagnostic efforts (Jesudason et al., 2023). Managing CF requires a multidisciplinary approach, including airway clearance, inhaled medications, antibiotics, and enzyme replacement. Advanced cases may need lung transplants. In India, limited healthcare access and high costs result in poorer outcomes (Jesudason et al., 2023). Adolescents with CF face emotional challenges due to daily treatments and visible symptoms like coughing and stunted growth. Stigma and isolation are common, highlighting the need for psychosocial support (Helms et al., 2015).

Asthma

Asthma is a chronic airway inflammation condition triggered by allergens, pollution, smoke, and infections. It causes wheezing, breathlessness, chest tightness, and coughing, especially at night or early morning (Jindal et al., 2012). Severity varies from mild to life-threatening.

Prevalence:

India accounts for 13.09% of global asthma cases (~34 million), due to genetic vulnerability and environmental factors like urban pollution and poor housing (GBD, 2019). Misdiagnosis is common due to overlapping symptoms with other respiratory illnesses. Treatment access is limited, especially in rural areas, and misuse or avoidance of inhalers worsens outcomes (Beasley et al., 2003). Urban air pollution in cities like Delhi and Mumbai severely affects adolescents, whose lungs are still developing. Studies show better air quality is linked to fewer asthma cases (Ellwood et al., 2003). Sedentary lifestyles, poor diets, and rising obesity further increase asthma risk (Patel et al., 2007). Adolescents often struggle to manage asthma due to stigma, lifestyle limitations, and social pressures. Poor control can affect academics, sports, and mental health, leading to anxiety and low self-esteem (Noll et al., 2010).

Heart Disease Though typically associated with adults, heart disease is rising among Indian adolescents. It includes congenital heart defects (CHD), acquired conditions, and lifestyle-related risk factors like obesity and high blood pressure. CHD, often diagnosed in childhood, can remain unnoticed until adolescence, causing fatigue or shortness of breath (Rutter et al., 1985). Medical advances have improved survival, but ongoing care is necessary due to risks of complications.

Lifestyle factors are driving acquired heart conditions. Rising adolescent obesity leads to hypertension, dyslipidemia, and insulin resistance—key contributors to early heart disease (Misra et al., 2011). Urban diets high in processed foods and reduced physical activity have worsened the trend.

Obesity affects 20% of urban Indian adolescents, increasing their risk for metabolic syndrome and related conditions (Chandra et al., 2019). Youth with heart disease often face social and emotional challenges, including isolation and reduced participation in physical activities (Russell et al., 2012). Awareness and support remain limited, especially in Indian settings (Patel et al., 2016).

Developmental Disorders

Stigma around mental and developmental health in India leads to underdiagnosis and poor treatment for ADHD and ASD. Families may avoid seeking help due to fear of social exclusion. Diagnostic and therapeutic services are mostly limited to major cities, delaying intervention and impacting academic, social, and life outcomes (Gururaj et al., 2016).

“Table 2: Overview of chronic illnesses (measured in DALYs) among adolescents aged 10–14 and 15–19 years old.

Age Group	Rank	Health Outcome	DALYs 1000s	% of Total	Health Outcome	Total DALYs (1000s)	% of Total	Health Outcome
			Both		Male			Female
10–14 Years	1	Conduct disorder	2595	7.74	Conduct disorder	1638	9.42	Migraine
	2	Asthma	2321	6.92	Asthma	1204	6.92	Anxiety disorders
	3	Anxiety disorders	2101	6.26	Anxiety disorders	839	4.82	Asthma
	4	Migraine	2046	6.10	Migraine	773	4.44	Conduct disorder
	5	Acne vulgaris	1476	4.40	Acne vulgaris	722	4.15	Major depressive disorder

	6	Major depressive disorder	1473	4.39	Low back pain	649	3.73	Acne vulgaris
	7	Low back pain	1270	3.79	Major depressive disorder	648	3.72	Low back pain
	8	Age-related and other hearing loss	1123	3.35	Age-related and other hearing loss	626	3.60	Age-related and other hearing loss
	9	Epilepsy	992	2.96	Epilepsy	539	3.10	Dermatitis
	10	Dermatitis	906	2.70	Autism	454	2.61	Epilepsy
		NCD Burden %	48.60%		NCD Burden %	46.51%		NCD Burden %
		Total DALYs	33,546		Total DALYs	17,398		Total DALYs
15–19 Years	1	Major depressive disorder	3646	8.16	Major depressive disorder	1589	6.98	Major depressive disorder
	2	Migraine	2709	6.06	Low back pain	1323	5.81	Migraine
	3	Anxiety disorders	2511	5.62	Conduct disorder	1232	5.41	Anxiety disorders
	4	Low back pain	2478	5.54	Acne vulgaris	1065	4.68	Low back pain
	5	Acne vulgaris	2151	4.81	Migraine	1036	4.55	Acne vulgaris
	6	Other musculoskeletal disorders	1923	4.30	Anxiety disorders	993	4.36	Other musculoskeletal disorders
	7	Conduct disorder	1874	4.19	Asthma	889	3.90	Asthma
	8	Asthma	1755	3.92	Other musculoskeletal disorders	872	3.83	Conduct disorder
	9	Epilepsy	1150	2.57	Epilepsy	682	3.00	Age-related and other hearing loss
	10	Age-related and other hearing loss	1123	2.51	Age-related and other hearing loss	638	2.80	Epilepsy
		NCD Burden %	47.69%		NCD Burden %	45.32%		NCD Burden %
		Total DALYs	44,706		Total DALYs	22,771		Total DALYs

6. IMPACT OF CHRONIC ILLNESSES ON ADOLESCENTS

1. Physical Health

Chronic illnesses like cystic fibrosis, diabetes, and asthma can delay physical development, stunt growth, and cause nutritional deficiencies. For example, adolescents with CF often face delayed puberty due to malnutrition and chronic lung infections (Pinzon et al., 2006). Similarly, diabetes can cause metabolic imbalances that interfere with growth.

Growth Delays: Adolescents with chronic conditions often experience delayed puberty and impaired growth due to poor nutrition, infections, or medication side effects. These delays can be emotionally distressing and affect self-esteem (Pinzon et al., 2006).

2. Emotional Health

Managing chronic illness during adolescence increases the risk of anxiety, depression, and emotional distress. The burden of treatment, physical limitations, and social exclusion can cause feelings of frustration, isolation, and helplessness (Polanczyk et al., 2015).

Mental Health Disorders: Constant medical management and symptoms often lead to psychological stress. Adolescents may feel ashamed or isolated, especially with conditions like ADHD or ASD, and hesitate to seek help (Russell et al., 2012).

3. Social Health

Chronic conditions can limit participation in peer activities, leading to social isolation. Visible symptoms, such as persistent coughing or physical differences, may result in stigma and exclusion, affecting adolescents' ability to build friendships.

Stigmatization: Youth with noticeable symptoms or developmental challenges often face peer rejection. Conditions like ASD can make communication difficult, worsening social exclusion and impacting long-term relationship skills.

4. Spiritual Health

Chronic illness may prompt adolescents to question life's meaning or seek comfort through spiritual practices like prayer or meditation. Spirituality can help adolescents and families cope with emotional and psychological challenges (Rudders et al., 2015).

7. IMPACT ON FAMILY, HEALTHCARE, SOCIETY, AND THE NATION

1. Family

Chronic illnesses in adolescents place significant emotional, financial, and time burdens on families. Parents often experience high stress as they manage their child's health alongside other responsibilities. The cost of treatments and hospital visits can be overwhelming, especially in resource-limited settings like India (La Clare, 2013). Siblings may feel neglected or take on extra duties, adding emotional strain to the family dynamic.

2. Healthcare Facility

The growing prevalence of chronic conditions among adolescents' strains healthcare systems, especially in rural areas lacking specialized care. In many low- and middle-income countries, including India, systems are not equipped for long-term adolescent care, leading to delayed diagnoses, inadequate treatment, and poorer outcomes (NHSRC, 2022). Services like early intervention and mental health support for developmental disorders are also scarce.

3. Society

Adolescents with chronic illnesses often face barriers to education and social interaction, limiting their potential. Stigma, especially around developmental disorders, can hinder their growth. Frequent absences and academic struggles may affect future opportunities in higher education and employment, reducing their ability to contribute to society (Gururaj et al., 2016).

4. Nation

Chronic illnesses in adolescents carry long-term economic impacts, especially in low- and middle-income countries like India. Healthcare costs, need for ongoing care, and reduced workforce participation due to early-onset NCDs challenge national growth (Patton et al., 2016). Affected adolescents may face limited career options, affecting productivity. Addressing this requires better healthcare access, reduced stigma, and social and educational support. These illnesses—especially developmental disorders—deeply affect adolescents' physical, emotional, social, and spiritual well-being. The consequences extend to families, healthcare systems, and society. Without early support, the long-term effects can be severe. A comprehensive response is needed to support adolescents and their families.

8. PREVENTION OF CHRONIC DISEASES AMONG ADOLESCENTS

Preventing chronic diseases in adolescents is essential to public health and requires early diagnosis, healthy behavior promotion, and mental health support. Conditions like asthma, diabetes, obesity, and mental health disorders can greatly affect adolescents' quality of life. Prevention should start early by addressing risk factors and supporting physical, emotional, and social well-being. Promoting healthy lifestyles is key. Encouraging balanced diets, regular physical activity, and avoiding harmful behaviors like smoking and sugary drink intake reduces chronic disease risk (WHO, 2010). A nutritious diet and exercise help prevent obesity, diabetes, and heart disease while improving mental health (Babu & Fatima, 2022).

Mental health also plays a crucial role in prevention. Stress and depression can lead to unhealthy habits and worsen physical health (Polanczyk et al., 2015). Providing counseling, stress management, and peer support helps reduce the risk of both mental and physical chronic conditions. Schools are vital for promoting health. Integrating health education, offering

screenings, and encouraging physical activity fosters lifelong healthy habits and early intervention (Babu & Fatima, 2022). Community health programs further support prevention. Awareness campaigns, vaccination programs, and improved access to healthcare—especially in rural areas through mobile clinics and telemedicine—help manage and prevent chronic conditions (WHO, 2010). Effective prevention must address individual, social, and environmental factors.

National and International Programs for Adolescent Health

Preventing and managing chronic diseases in adolescents requires coordinated national and global efforts. Programs in India and worldwide address the growing burden of non-communicable diseases (NCDs) by emphasizing early intervention, health education, and access to care.

In India, the Rashtriya Kishor Swasthya Karyakram (RKSK) is a key initiative targeting adolescent health, focusing on physical, mental, and reproductive well-being (Bahl et al., 2023). It promotes healthy behaviors in schools and communities, encourages nutritious diets and physical activity, and discourages risky habits like smoking and alcohol use. RKSK also includes regular check-ups, mental health services, and adolescent-friendly primary care to detect and manage chronic conditions early.

Globally, the World Health Organization (WHO) leads programs to promote adolescent health, stressing early intervention and the integration of adolescent services into broader health systems (Patton et al., 2016). WHO initiatives support healthy lifestyles to prevent obesity, diabetes, and heart disease, while encouraging education, employment, and avoidance of risky behaviors (WHO, 2010).

These global efforts also aim to address social determinants like poverty, low education, and limited healthcare access. Organizations such as WHO and UNICEF assist low- and middle-income countries (LMICs), including India, by improving healthcare availability and advocating for adolescent-focused policies.

Preventing chronic diseases among adolescents requires promoting healthy living, improving mental health, and expanding access to care. National programs like RKSK and international efforts by WHO play a critical role in reducing the long-term impact of chronic diseases in youth.

9. CHALLENGES FACED BY ADOLESCENTS SUFFERING FROM CHRONIC DISEASES

As seen, children who experience the ill effects of chronic diseases get a lot of difficulties that affect them physiologically, psychologically, and socially. These are compounded by the systemic and cultural barriers such as limited access to health care, shame and gaps in the health care system. These difficulties are critical for work on the personal satisfaction for adolescents with chronic circumstances to provide them with the essential help to effectively manage the diseases.

1. Access to Care

Access to specialized care is a major challenge for adolescents with chronic illnesses, especially in low- and middle-income countries like India. Healthcare services are often limited to urban centers, forcing those in remote areas to travel long distances for treatment, causing delays in diagnosis and care (Muzammil et al., 2009). Early intervention is crucial for conditions like diabetes, asthma, and developmental disorders; delays can worsen outcomes and long-term health.

Mental health services are also lacking, particularly in rural areas. Many adolescents with chronic illnesses are at increased risk of depression, anxiety, and social issues but cannot access the support they need due to a shortage of specialists and facilities. This care gap worsens both their physical and mental health, compounding the difficulties they face (Russell et al., 2012).

2. Stigma

Stigma is a common challenge for adolescents with chronic illnesses, especially those with mental health conditions or visible symptoms. Misunderstanding and lack of awareness often lead to stereotypes, labelling them as weak or different. This can result in social isolation, bullying, and shame, particularly for conditions like ASD, ADHD, or cystic fibrosis, where behaviour or physical symptoms are noticeable (Russell et al., 2012).

Stigma also discourages adolescents from following treatment routines in public—like using inhalers or insulin—out of fear of ridicule. This leads to poor disease management and worsens both physical and mental health (Emerson et al., 2015). Educational and awareness efforts are essential to reduce stigma and foster a more supportive environment.

3. Healthcare System Gaps

The transition from paediatric to adult healthcare is a critical phase for adolescents with chronic illnesses, yet it is often poorly managed. Shifting from paediatric specialists to adult care can disrupt continuity, leading to gaps in treatment and support (Kelepouris et al., 2023).

Healthcare systems often lack structured approaches to support adolescents during this transition. Without proper guidance, many struggle with self-management, like administering insulin or monitoring glucose, risking serious complications.

Adolescents with developmental disorders may also lose access to support services crucial for academic and social functioning.

Additionally, the lack of adolescent-specific healthcare services leaves many without appropriate care. This highlights the need for dedicated transitional care models that ensure consistent support as adolescents move into adulthood.

10. CONCLUSION

This study explained that non-communicable diseases in adolescents are a major general health issue and even more so in LAC and low and middle-income countries such as India. Another significant problem – non-transmittable diseases such as increasing predominance of asthma, diabetes, weight and people’s emotional wellness among adolescents cannot be left without attention. Different challenges affect adolescents with chronic circumstances these include; consciously limited access to mind with social stigma and gaps in health systems which complicate disease management and impact the young people’s physical, mental and social wellbeing. Addressing these challenges calls for a Hilichurh’s sophomore and multiple technique that drew on medical care changes, emotional wellbeing support, early intercession, and general wellbeing drives aimed at positively changing sound behaviors among individuals. mega health interventions such as India’s RKSK for adolescents and other global initiatives by other players such as WHO are essential in offloading the burden of chronic diseases in adolescents. In cooperative efforts, one can address the need to focus on the satisfaction for the adolescents with these chronic illnesses as they prevent the above chronic impacts on people, families, and societies.

REFERENCES

- [1] Janet M. Torpy, MD, Writer; Annie Campbell, BS, Illustrator Intern; Richard M. Glass, MD, Editor JAMA. 2010;303(7):682. doi:10.1001/jama.303.7.682
- [2] Kathleen B. Watson, PhD¹; Susan A. Carlson, PhD¹; Fleetwood Loustalot, PhD²; Machell Town, PhD¹; Paul I. Eke, PhD¹; Craig W. Thomas, PhD¹; Kurt J. Greenlund, PhD.
- [3] McPherson M, Arango P, Fox H, et al. A new definition of children with special health care needs. Paediatrics 1998; 102:137–40
- [4] GBD compare, Viz hub. (2021, June 30) Retrieved from <https://vizhub.healthdata.org/gbd-compare/>
- [5] Misra A, Shah P, Goel K, Hazra DK, Gupta R, Seth P, et al. The high burden of obesity and abdominal obesity in urban Indian schoolchildren: A multicentric study of 38,296 children. Ann Nutr Metab. 2011;58:203–11.
- [6] Organisation WH. Global status report on noncommunicable diseases 2010. Geneva: World Health Organization; 2011
- [7] Jagadeesha DA. Global Pandemic of Diabetes: An Indian Perspective | Royal College of Physicians. Available from: <https://www.rcpe.ac.uk/international/global-pandemicdiabetes-indian-perspective> .
- [8] Chandra N, Anne B, Venkatesh K, Teja G, Katkam S. Prevalence of childhood obesity in an affluent school in Telangana using the recent IAP growth chart: A pilot study. Indian J Endocrinol Metab. 2019;23:428–32.
- [9] Gaddekar RD. Ministry of Health and Family Welfare, Government of India. NATIONAL FAMILY HEALTH SURVEY (NFHS-4) 2015-16 2019. Available from: <http://rchiips.org/nfhs/NFHS-4Reports/India> .
- [10] World Health Organization. Global status report on noncommunicable diseases. 2010
- [11] Abdelaal M, le Roux CW, Docherty NG. Morbidity and mortality associated with obesity. Ann Transl Med. 2017;5:161.
- [12] Kumar P, Srivastava S, Mishra PS, Mooss ETK. Prevalence of pre-diabetes/type 2 diabetes among adolescents (10-19 years) and its association with different measures of overweight/obesity in India: a gendered perspective. BMC Endocr Disord. 2021 Jul 7;21(1):146. doi: 10.1186/s12902-021-00802-w. PMID: 34233661; PMCID: PMC8261995.
- [13] Wu H, et al. Worldwide estimates of incidence of type 2 diabetes in children and adolescents in 2021. Diabetes Res Clin Pract. 2022;185:109785.
- [14] Dabelea D, et al. Association of intrauterine exposure to maternal diabetes and obesity with type 2 diabetes in youth: the SEARCH Case-Control Study. Diabetes Care. 2008;31(7):1422–6.
- [15] Dodge JA, Morison S, Lewis PA, Coles EC, Geddes D, Russel G, et al. Incidence, population and survival of Cystic fibrosis in UK 1968-95. UKCF Survey Management Committee. Arch Dis Child 1997; 77: 493-496.
- [16] Cystic Fibrosis Mutation Database Available from: <https://www.genet.sickkids.on.ca/> [Last accessed on 2023 Oct 01, Last updated on 2023 Jul 14]
- [17] Polanczyk G.V., Salum G.A., Sugaya L.S., Caye A., Rohde L.A. Annual research review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. J. Child Psychol. Psychiatry.

- 2015;56:345–365. doi: 10.1111/jcpp.12381. [PubMed] [CrossRef] [Google Scholar] [Ref list]
- [18] Patton G.C., Sawyer S.M., Santelli J.S., Ross D.A., Afifi R., Allen N.B., Arora M., Azzopardi P., Baldwin W., Bonell C., et al. Our future: A Lancet commission on adolescent health and wellbeing. *Lancet*. 2016;387:2423–2478. doi: 10.1016/S0140-6736(16)00579-1. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
- [19] Gururaj G., Varghese M., Benegal V., Rao G.N., Pathak K., Singh L.K., Mehta R.Y., Ram D., Shibukumar T.M., Kokane A., et al. National Mental Health Survey of India, 2015-16: Prevalence, Patterns and Outcomes. India National Institute Of Mental Health & Neuro Sciences NIMHANS Publ; Bengaluru, India: 2016. p. 129. [Google Scholar]
- [20] Russell PS, Mammen P, Nair MK, Russell S, Shankar SR. Priority mental health disorders of children and adolescents in primary-care pediatric setting in India 1: Developing a child and adolescent mental health policy, program, and service model *Indian J Pediatr*. 2012;79(Suppl 79):S19–26 Cited Here | PubMed | Google Scholar
- [21] Sagar R, Krishnan V. Preventive strategies in child and adolescent psychiatry *Indian J Soc Psychiatry*. 2017;33:118 Cited Here | Google Scholar
- [22] "Chronic Illness and Functionality: How It Affects Adolescents Academically and Socially and How They Can Cope," *Intuition: The BYU Undergraduate Journal of Psychology*: Vol. 12: Iss. 2, Article 8
- [23] Noll R B, Kupst M J The psychological impact of pediatric cancer: Hardiness, the exception or the rule, *Journal of Pediatric Psychology* 2007, vol. 32 (pg. 1089-1098) Google Scholar Crossref PubMed WorldCat
- [24] "Chronic Illness and Functionality: How It Affects Adolescents Academically and Socially and How They Can Cope," *Intuition: The BYU Undergraduate Journal of Psychology*: Vol. 12 : Iss. 2 , Article 8. 2017
- [25] Van Cleave J. Dynamics of Obesity and Chronic Health Conditions Among Children and Youth. *JAMA*. 2010;303:623. doi: 10.1001/jama.2010.104. [PubMed] [CrossRef] [Google Scholar]
- [26] Burns JJ, Sadof M, Kamat D. The adolescent with a chronic illness: epidemiology, developmental issues and health care provision. *World Heal Organ*. 2007;35(206–210):214–216. doi: 10.1136/adc.2003.045377. [PubMed] [CrossRef] [Google Scholar]
- [27] Pinquart M. Achievement of developmental milestones in emerging and young adults with and without pediatric chronic illness-a meta-analysis. *J Pediatr Psychol*. 2014;39:577–587. doi: 10.1093/jpepsy/jsu017. [PubMed] [CrossRef] [Google Scholar]
- [28] Akseer, N., Mehta, S., Wigle, J. et al. Non-communicable diseases among adolescents: current status, determinants, interventions and policies. *BMC Public Health* 20, 1908 (2020). <https://doi.org/10.1186/s12889-020-09988-5>
- [29] SA Meijer, Gerben Sinnema, Jan O. Bijstra, Social Functioning in Children with a Chronic Illness February 2000 *Journal of Child Psychology and Psychiatry* 41(3):309-317 DOI: 10.1017/S0021963099005211
- [30] Noll RB, Kiska R, Reiter-Purtill J, Gerhardt CA, Vannatta K. A controlled, longitudinal study of the social functioning of youth with sickle cell disease. *Pediatrics*. 2010 Jun;125(6):e1453-9. doi: 10.1542/peds.2009-2996. Epub 2010 May 24. PMID: 20498169.
- [31] Denny S, de Silva M, Fleming T, Clark T, Merry S, Ameratunga S, Milfont T, Farrant B, Fortune SA. The prevalence of chronic health conditions impacting on daily functioning and the association with emotional well-being among a national sample of high school students. *J Adolesc Health*. 2014 Apr;54(4):410-5. doi: 10.1016/j.jadohealth.2013.09.010. Epub 2013 Nov 7. PMID: 24210897