Investing in Health of Children and Youth
The mission of IFMSA is to offer future physicians a comprehensive introduction to global health issues. Through our programs and opportunities, we develop culturally sensitive students of medicine, intent on influencing the transnational inequalities that shape the health of our planet.
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The 20th issue of Medical Students International (MSI 20) focuses on a theme of sole importance for the future society - youth and children. The key message of the theme - “All children and youth should have the means and the opportunity to develop to their full potential to live healthy and fulfilled lives.” - shows a clear path to follow when choosing articles. As usual we tried to cover as many aspects as possible. MSI still is a students’ journal and most of the articles were written by students, but besides regular students’ contributions we invited some of the experts dealing with youth and child health, to share their opinion, to generate ideas and most importantly to stimulate critical thinking among medical students.

There is a particular part of modern youth population, that not only we did not specifically mention in this edition, but it is often neglected as a specific group by the healthcare authorities. I am, of course, speaking about us, students. In average students would be from 18 to 25 years old (age varies ± 1 year depending to the country). It is a gross estimation declaring a 18 year old teen adult - legally yes, physiologically maybe, but not psychologically. When looking through epidemiological studies most of them study adolescents up to the age of 18 and adults over 25. That means, that most of the data and changes made for that specific population are “estimations” based upon studies of other age groups. One can easily see the problem... Example that proves my point: students’ lifestyle patterns differs from lifestyle patterns of the “working population” aged the same. On the other hand, one could assume, that by that age self image perception disorders, drug experimentation, deviant sexual behavior, endocrinological and disorders distinctive of adolescent age are over, which might not be true, they might even be exaggerated.

To conclude, although we are future’s doctors, and we are trying to aid as many people as possible now as we will in the future, we should still focus some of our energy on our own health and health of our peers.

- Matija Švagan

notes

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Front page drawing done by Nia Krajnc, from Slovenia, 4 years old.

We sincerely apologize to Laurel S. Gabler for not publishing her name with her article “Beyond the Science: The Art of Patient-Doctor Communication” in MSI19.
Investing in the health of adolescents and youth is probably an area that is not very well addressed in the fight for healthier communities. More emphasis is usually placed on the welfare of children with primary preventive measures and on the adults on secondary and tertiary preventive means. The age group in between is seldom targeted scientifically and specifically with regards to emerging problems, both physical and psychological therefore compromising efforts done on all other levels.

As medical students promoting health, and as the earliest generation to have completed adolescence, we have the advantage of understanding the problems that face this age group. Not so long ago we were adolescents and we were suffering from the lack of information about important health issues and from the deficiency in understanding our needs and adequately providing means of support. The aforementioned factors make us the best possible candidates to tackle the issues affecting adolescents and youth, especially health-wise.

We know better than anyone that investing in the health of adolescents and youth is the most cost-effective strategy when it comes to lowering the burden of disease in the population. Interventions at every age group need to be well planned and addressed specifically to match the needs of that age group. The thing that differentiates adolescence and youth from other age groups is the fact that psychological well being and behavioral modification is of extreme importance in addition to the prevention of physical illness. The way that the adolescent psyche, values, way of life and appreciation of one’s own existence are greatly shaped during this critical time.

It is very important when addressing the health of the younger population to take into consideration the other activists in this field. We should be more than willing to cooperate with other international and national youth organizations from various fields of interest, because building healthy societies is not only the duty of medical doctors or doctors-to-be. Everyone with a genuine interest and ideas to offer should be included in the process to reach the broadest and most inclusive campaign in order to achieve the best results.

In conclusion, IFMSA provides a platform for inter-medical student collaboration and cooperation to build a healthier tomorrow, so make use of what IFMSA offers each and every one of you to induce positive change in your communities.
Background

There are several hundred million people in the world with permanent disabilities as the result of movement, heading, seeing or mental impairments. Their precise number is unknown by the inadequacy of current services to meet their needs is clear and in most developing countries, even the most basic services and equipment are lacking. In developed countries, people with disabilities may benefit from medical and educational services, yet lack the opportunity to work or otherwise join in community life.

Countries acting to assist disabled people are motivated by a belief in equality and by the desire to limit the severity of disability and the hardship it imposes on individuals and families as well as to limit the loss that occurs when a sector of the population is economically unproductive. All people have the right to health. In order to ensure that right for all of its citizens, a nation provides opportunities for disabled people to develop and use their physical and mental abilities.

Disability and Primary Care

The World Health Organization has always strived to work towards the realisation of Health for All. In 1978, the International Conference on Primary Health Care, held in Alma-Ata, declared that primary health care would address the main health problems in the community and therefore promote Health for All through the provision of promotive, preventative, curative and rehabilitative services. Following the declaration, WHO developed the strategy of community-based rehabilitation as a means of integrating rehabilitation with health and development activities at community level. [2]

In 2008 it was estimated that about six hundred and fifty million people live with disabilities of various types, and the number is increasing due to the rise of chronic diseases, injuries, car crashes, falls, violence and other causes such as ageing. Of this total, 80% live in low-income countries; most are poor and have limited or no access to basic services, including rehabilitation facilities.

When a child is first diagnosed with a medical condition, especially a life-threatening one, the first question many parents understandably ask is, “How long does my child have to live?” Medical professionals normally respond by quoting the statistics. Statistically, all illnesses have a somewhat predictable course or an “average life expectancy.”

But statistics based on the group norms may be very misleading and even disabling when applied to individual children. Historically, medical professionals have been known to advise parents of children with cystic fibrosis not to worry about saving for their children’s college education. And parents have been known to lower their expectations concerning their children’s performance in school, sports, or other important matters relating to the future and living a “normal” life. This lowering of expectations, with its suggestion of a “What’s the use?” attitude does a great disservice to children. It encourages them to become both entitled and to feel hopeless within themselves. Achievement and self-image both suffer.

The average life expectancy for many diseases is increasing at a fairly rapid rate due to medical advances. What might be an accurate statistic today probably won’t be tomorrow. While it is important to understand the statistics, it is not helpful to be governed by them. With many medical conditions, there is a strong correlation between good self-care and longevity. Parents can use statistics to inspire hope and spark an “I can beat this’ attitude. Parents who give off positive, “we can beat this” vibes generally raise kids with the same determined spirit.

Jonathan Mamo, MD, Malta

The hope of progress with the Convention on the Rights of Persons with Disabilities

Children: Well-Being and Disability

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Disability is a human rights issue with particular significance in the European states. The treatment of persons with disabilities under communism was characterised by a social environment in which disability was a source of shame and denial, and a public environment in which the state took on the role of caretaker. For too many children with disabilities, this meant spending their lives in large institutions or special schools, distant from family and isolated from community. Nowadays the transition is towards de-institutionalisation. Over the last few years the international community has been increasingly committed to enhance the rights of persons with disabilities, and we now have the opportunity to give children the priority attention they deserve. [3]

Disability, the Millennium Development Goals and Organisational Work

Children have already become an important focus for the attention of the international community. Six of the eight UN Millennium Development Goals (MDGs) directly relate to child well-being and the ‘World Fit for Children’ outcome of the 2002 UN Special Session on Children is an agenda for global action. The 1989 UN Convention on the Rights of the Child is the most widely ratified international treaty in history. [4] The fact that disability is not included in the Millennium Development Goals is disappointing to say the least; especially when many of these goals cannot be met without addressing disability issues in the developing world.

The United Nations’ comprehensive international convention on protection and promotion of the rights and dignity of persons with disabilities [5] states that member states need:

1. to strengthen national policies, strategies and programmes for persons with disabilities;
2. to increase public awareness of the importance of the issue of disability and;
3. to develop their knowledge with a view to promoting and protecting the rights and dignity of persons with disabilities and ensure their full inclusion in society, particularly by encouraging training and protecting employment;
4. to take all necessary steps for the reduction of risk factors contributing to disabilities;
5. to promote early intervention and identification of disability, including to health and rehabilitation services;
6. to implement family counselling programmes;
7. to promote and strengthen community-based rehabilitation programmes linked to primary health;
8. to facilitate access to appropriate assistive technology and to promote its development;
9. to include a disability component in their health policies and programmes;
10. to coordinate policies and programmes on disability;
11. to ensure gender equality in all measures;
12. to participate actively and constructively in the preparatory work for the UN convention on protection and promotion of the rights and dignity of persons with disabilities;
13. to investigate and put into practice the most effective actions to prevent disabilities with the participation of other sectors of the community;
14. to ensure provision of adequate and effective medical care.

Conditions vary considerably from one residential school to another, and, despite certain improvements, the worst ones are for the disabled children. The living conditions are not up to the special requirements of such cases, nor are the food, sanitary standards, or opportunities for person-to-person contacts.”

- Kyrgyzstan Country Report, 2002
as well as accessibility to people with special needs;

\[\text{15. to research and implement the most effective measures to prevent disabilities in collaboration with communities and other sectors.}\]

The Convention on the Rights of Persons with Disabilities and its Optional Protocol was adopted on 13th of December 2006 at the United Nations Headquarters in New York. There were more than 80 signatories to the Convention making it the highest number of signatories in history to a UN Convention on its opening day. It is the first comprehensive human rights treaty of the 21st century and is the first human rights convention to be open for signature by regional integration organizations.

The Convention is intended as a human rights instrument with an explicit, social development dimension. It adopts a broad categorization of persons with disabilities and reaffirms that all persons with all types of disabilities must enjoy all human rights and fundamental freedoms. It clarifies and qualifies how all categories of rights apply to persons with disabilities and identifies areas where adaptations have to be made for persons with disabilities to effectively exercise their rights and areas where their rights have been violated, and where protection of rights must be reinforced.

Article 1 of the Convention on the Rights of Persons with Disabilities states that the purpose of the Convention \[\text{[6]}\] is "to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity".

The Convention does not impose a rigid view of "disability," but rather assumes a dynamic approach that allows for adaptations over time and within different socioeconomic settings. The Convention's approach to disability also emphasizes the significant impact that attitudinal and environmental barriers in society may have on the enjoyment of the human rights of persons with disabilities. In other words, a person in a wheelchair might have difficulties taking public transport or gaining employment, not because of his/her condition, but because there are environmental obstacles, such as inaccessible buses or staircases in the workplace, that impede his/her access.

In the same way, a child with an intellectual disability might have difficulties in school because of teachers' attitudes toward him/her, inflexible school boards and possibly parents who are unable to adapt to students with different learning capacities. It is thus vital to change those attitudes and environments that make it difficult for persons with disabilities to participate fully in society. \[\text{[7]}\]

Currently, the rehabilitation of people who have been disabled as a result of conflict in countries such as Cambodia, Cote d'Ivoire, and Liberia, heavily relies on non-governmental organizations (NGOs), such as Handicap International \[\text{[8]}\], because there is little governmental assistance. Cambodia, for example, is still one of the poorest countries in the world with a very slow recovery after thirty years of conflict and civil war; its huge numbers of disabled citizens are the legacy of landmines, poliomyelitis, and disease. \[\text{[9]}\] The four core values of human rights law—dignity, autonomy, equality, and solidarity—might mean little to the rural farmer whose leg has been blown off by a landmine if he is unable to have a well-fitted and maintained prosthesis and basic primary and public-health care for himself, his family, and his community. \[\text{[10]}\]

Poverty Risk

Evidence of the links between poverty and disability is relatively thin. Until recently, few household surveys captured disability of family members properly, and many people with disabilities still remain hidden from statistics. More research and data collection has been done in developed countries than in developing countries, partly because of their more developed statistical and research capacities.

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From the evidence available the following patterns emerge: [11], [12]

Increased family expenditure: Raising a child with disabilities increases family expenditure while it tends to reduce opportunity to earn income. Because of the lower incomes and higher costs of raising children with disabilities, it is not surprising to find a higher percent of families who have children with disabilities among the poor.

Reduced employment opportunities: The most significant indirect cost associated with raising a child with disabilities is the reduced employment opportunities for parents.

Direct costs: These costs may also be substantial: Children with disabilities or chronic conditions and diseases may need medication and/or special food and clothing and supplies; adjustments in housing, medical and rehabilitation services; aids preferably designed and adjusted to personal needs; accessible transportation, shelter, tutors, after-school and extracurricular services.

High hours of unpaid care: Parents spend a great deal of time managing the disabling aspects of their child’s life, as well as the care that parents typically undertake. This highlights the fact that parents, particularly primary carers, need sources of care and support for themselves as well.

Workplace barriers: Parents may be unable to take some types of jobs and employers may be unwilling to hire a person who has a child with disabilities, especially women, typically the primary carers in the family. According to a Canadian study; 68 per cent of parents of children with disabilities do not work overtime, and 72 per cent passed up promotions because of its competing demands with the care of their child. This means that, in the absence of broader societal support such as more flexible working conditions, the parent who needs more income must pass it up and the employer who wants to benefit from a desirable employee lets the opportunity go.

Household stress: The extra expenditure currently needed to raise a child with disabilities tends to create a huge pressure on the family to increase income. It is probable that a selection effect is also at work here, i.e., partners who manage to increase their earnings stay together. However, coping strategies, such as fathers or mothers taking additional jobs, may not be sustainable over the longer term. In any case, families with a child with disabilities tend to have a higher chance of becoming single parent families, with the father typically leaving the home.

Coping strategies: The extra expenditure needed for a child with disabilities may also crowd out other expenditures, and/or prompt strategies that expand the household economy, such as having generations live together. There are other opportunity costs incurred in raising a child with disabilities such as forced saving effect as parents try to increase savings in anticipation of a future where their child faces inadequate opportunity and social support.

The relationship between poverty and disability contributes to the vulnerability and exclusion of disabled persons and their families. The higher poverty risk of families may amplify the disabling effect of a child’s basic impairment and impact on the family’s ability to support opportunities for siblings. Therefore poverty, apart from being an outcome of raising children with disabilities, can be a determinant when it affects maternal and child health through malnutrition, higher risk of infectious disease and exposure to unsafe working and living conditions.

Conclusion

Linking the issues of child rights and well-being to that of children with disabilities can only accelerate much needed progress. Countries that are setting their long-term child welfare objectives in line with child rights will need to seriously address disability issues. With a new UN convention on the rights of persons with disabilities in the making, there is a not-to-be-missed opportunity to transform the treatment of children with disabilities from being a source of public shame to being a measure of human progress.

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References


Caring for disabled kids in the Middle East, and Lebanon in particular, has proven to be a long and difficult struggle against many social and psychological factors. Compounding this problem is ignorance and fear of what is different added to the lack of resources. Families of disabled children often worry about what people will think and say and thus prefer to hide their kids, denying them the care and specialized attention they deserve and need. Specialized programs, personnel, equipment and institutions in the past were totally absent, insufficient or inadequate. Funding, donations, governmental support were and are still very hard to find. But substantial progress is being made. Laws protecting the rights of disabled children started being issued in 2000; however, their implementation is long from being satisfactory.

But the leap in social, medical, psychological and even existential approaches in the past two decades is tremendous. The disabled child is now recognized as a person with rights who deserves to live in dignity. Specialized personnel are being trained at home and abroad, new technology and equipment is being acquired, public awareness, acceptance and involvement are much more prevalent. However, the road is still very long. Most of the work is covered by Non-Governmental Organizations with limited resources.

There is a constant need of donations, financial and otherwise, and additional laws and regulations are needed as well. Volunteers are always needed and welcomed, in particular specialized personnel. Lebanon has a major shortage in pediatric neurosurgeons, orthopedists, genetic researchers, respiratory specialists, etc. Specialized equipment for communication and mobility is almost nonexistent in Lebanon and very expensive to import. Improvisation and adaptation cannot always cover the needs of these organizations or the children they are trying to care for.

SESOBEL* is one of the Lebanese NGOs that took on the challenge of assuring a dignified life for the disabled children and their families, its action plan revolves around the child, and they believe that all children should be regarded as equal. It was the first NGO to adopt the notion of a “Global Approach” that offers the child more integrated, specialized services that would alleviate his/her pain and enhance the quality of his/her life.

For over 30 years SESOBEL has been struggling to develop this approach and to gain the respect and support of the public at large and the medical and paramedical corps in particular. In parallel, SESOBEL offers the necessary support to the child’s family to promote a balanced and harmonious relationship thus enabling the child to grow in a healthy, joyful and loving environment. This determination to create a life project has led to the creation of a multi-disciplinary team around the disabled child offering complementary, specificity, and technique for his/her well being. Changes, adaptations, and fine tunings were done.

*SESOBEL: A Global Approach
Fadia Safi, SESOBEL President & General Manager, Lebanon
as the programs went along, all revolving around the child. The child was and will always remain the centre of focus of SESOBEL's action.

Throughout the years SESOBEL has fought for the teaching of specialized paramedical disciplines (speech therapy, occupational therapy, psycho-motor therapy, etc.) in local universities. It created and developed separate and dynamic programs for autistic children and for poly-handicapped children, that nobody else wanted to care for. It imported and operated the first Gait and Motion Analysis Laboratory in Lebanon, to serve the physically disabled children in its programs and all those who need to benefit from this new technology in Lebanon and surrounding regions.

In brief, SESOBEL moved disability from being a social tragedy and shame to becoming a reality that can be dealt with.

Disability is everyone's concern and we can all make a difference in discovering a new meaning of love, caring and giving. Together we will help the disabled children draw their dreams.

**SESOBEL: Social Service for the Welfare of Lebanese Children.**


For more information, please visit www.sesobel.org

**Mission of SESOBEL:**

1. Helping handicapped children lead a happy and hopeful life despite the difficulties that come with disabilities. Ensuring:
   - A harmonious development while taking into account the child's potential, whatever the disability.
   - A development that enables the child to be in harmony with themselves, their environment and the people that surround them.
   - A development that respects their dignity as a human being and recognizes their fundamental need for a life full of love and acceptance.

2. Provide sufficient family support so the disabled can remain in their family environment
   - Support the family, especially the mother, to lessen the burden and demands of the disability and to prevent the family from being overwhelmed.
   - Support the family so they can recover the harmony, which is usually lost due to the child's disability.
   - Support the family so they can overcome difficulties with joy and hope, and discover the art of living together in acceptance of each person's potential. In this way, each member will be able to fulfill each others' needs and grow in harmony.

3. Challenging society to respect the handicapped and acknowledge their right to a dignified life, regardless of the nature of their disability
   - Determine the needs of disabled children and those of their families, and then advise policy makers concerning the extent of those needs.
   - Collaborate and coordinate with all the authorities that are capable of meeting those needs.
   - Work to prevent disabilities and promote early detection.
   - Raise public awareness regarding each person's responsibility to treat the disabled with respect.

MSI twenty
He was called Pietá. He was four or five years old and lived in a refugee camp. He was there with his family, in transit, on a trip of return to his country, coming from the country where he was born, Zambia, which was not his country though. His country was Angola. He was born inside of another refugee camp where his family lived has long time, that time itself forgotten when they had arrived, running away from the wars in Angola. Little Pietá spoke English and Chokwé. English because it was what he spoke in the refugee fields of Zambia with the people of there and with the staff of United Nations. Chokwé was the language that he spoke among his people of the same ethnic name and that occupies lands of both sides of the border. A border that is a risk in a map... that's cut to half equal people and equal cultures.

Little less of one month after being there in the field, in voluntary work, as every day morning, I went early. One day has I arrived at the gate and, even so I was already expecting the everyday imaging, I never it saw with clean eyes of hurt from the people lining at the entrance, wanting to enter in the field to be able to receive some food. But in this certain morning, the hurt gave place to the surprise. Wait for me next to the gate, was the small Pietá. He talked to me in a perfect Portuguese... and he didn't learn that on any school.

His name was Emanuel. He was the youngest of a Amazonian indigenous family. But they didn't live in the forests. Somehow, some day they were expelled from their lands, their trees and their river. They lost their way of living and all their knowledge of the language of the nature was useless on the city where they were forced to moved.

As you read this issue, they are one of thousands of No Land Movement. Emanuel had this look, a profound look that absorbed everything around him. We could see his hunger of understanding how the world functions.

These two boys live in the same world that you and me live. They are kids with a great capacity to learn. And a great will to learn. The stories of these two boys are just two stories of thousands of stories that could be different. What if Pietá and Emanuel were born in other time, in other place? What if they were born where you were born? What if they were born in the northern world, in a wealthy and healthy family, with a good school around and peace was not just a symbol but a real thing? I bet they could be everything they dreamed for! And still, they are as pure as innocence, they deserve to dream and to achieve those dreams. But you and me, or so called the system doesn't seem to let them.

Inverting the way of things

As we listen to government promises of millions to Developing Countries, we cannot help thinking that those countries don't need millions. They need strategic application of funds and a very important part of this strategy is empowerment. Indeed, creating the capability for people, for all people to think their lives and their communities towards a better life level and comfort. We are not talking about fighting miseries of hunger and war directly because the standard of achievement that we must focus on must be positive, higher! So, are we dreaming enough?! Are we doing the right simple things or do we focus on the wrong complex and million dollar spending useless projects?

The way of mankind for prosperity is not on the economical resources distribution... it is on the kindness he puts on what he does in the world.

- L. Tolstoy
One Child, One Future

There is a small NGO, based in Portugal, ORBIS – Coop-eration and Development. This small NGO has a simple project that relays on the power of simple people. The so called “One Child, One Future” project counts on working class people, on students, alone or in groups, counts on families, on rich, on poor, counts on everyone to share, each month of a small amount, to Europe rates, of money (€15 to €30) that are applied on a child who lives in Africa, Brazilian Amazon communities or another place that might be reported necessary. These small amounts, for Europe, are invested in education and feeding of a specific child, with a name, a family history, with feelings and hopeful dreams. The project gives them a better possibility of a brighter future, of a good nurtured tomorrow, and an education base to go on with the world! This project doesn’t need large amount of funds, only the adequate to give children everyday food, so that they can be healthier, and can learn in the school that they have and not on the one, that has been promised long ago. They can’t wait! They need their book and their meal today! In the future there will be their times to contribute and build a better world, managing their local contribute for our global development.

Surgery

The Neglected Step-Child of Global Health

Andrew P. Loehr, MD, Indiana University School of Medicine, U.S.A.

Children represent a major portion of those who suffer from preventable and treatable conditions throughout the world but they also suffer from many conditions that inevitably require surgical interventions (injuries, congenital anomalies, and malignancies). While focusing significantly on communicable and infectious disease, global health schemes have grossly overlooked the role of surgery in public health. Within the past decade however, surgery, access to surgical services, and surgical infrastructure have gained increasing attention within the global health community and are being viewed more as an essential component of comprehensive public health initiatives. New models for surgery and global health thus provide endless opportunities for passionate and innovative leadership from tomorrow’s physicians.
Amidst the hectic environment on the pediatric surgery ward of a tertiary-care hospital in rural Kenya, I find myself suddenly taken aback by three children who now encircle me. The first child, from whose bedside I have just left, is a one-year-old child who has been hospitalized for two weeks only now being diagnosed with a congenital anomaly by the region’s lone pediatric surgeon, absent from the hospital until today. The second child, a five-year-old boy, jets in front of me racing a plastic truck across the freshly bleached concrete floor, perfectly content with his dilapidated toy after having undergone an eight-hour surgery for a malignant cranial tumor just three days prior by two American neurosurgeons. Finally, the beautiful smile of a twelve-year-old girl greets me from across the bustling ward. She patiently sits on a bench, arms and legs contracted from the poorly managed wound care of a 70% body-surface area burn, awaiting an excruciatingly painful change of dressings and physical therapy. These three children epitomize the glaring disparity in surgical care suffered by children (and adults) across the developing world.

Although health professionals have long advocated for underserved patients and have promoted change in marginalized communities throughout the world, my young patients highlight an element that most within the global health community have grossly overlooked. HIV/AIDS, malaria, water-borne diseases, and other infectious disease profoundly impact child health across the developing world and are correspondingly major foci of public health intervention. While invaluable in their own right, however, dissemination of bed-nets, access to clean water, utilization of vaccinations, and childhood education could not have averted the pathologies that afflicted my patients. No, these three children epitomize the impact on individual patients and region-specific research.

While the statistics of surgical conditions and the need for improved services have now been acknowledged, comprehensive and strategic solutions are only beginning to be addressed. Initial steps by assemblies such as the Bellagio Essential Surgery Group [4] and the Global Initiative for Emergency and Essential Surgical Care [5] have outlined tangible interventions and provide a solid framework for young, enthusiastic medical students and physicians throughout the world. This momentum must now advance with creative and forward-looking solutions. Tomorrow’s surgical leaders need not only advocate for patients but also for the profession, forging new models of surgical care, research, and workforce development, innovations in education and research, and economics.[6][7][8] In welcoming our previously “neglected step-child of global health” to the strategic table, significant progress in surgical care, public health, and overall social development can be achieved through the committed and collaborative spirit of health professionals around the world.

References
Non-communicable diseases remain the leading cause of death, as they account for 6 out of 10 deaths worldwide, with cardiovascular disease causing 32% of deaths in women and 27% of deaths in men [1].

We might consequently think that 60% of money spent in the healthcare system must be spent on preventing or curing these diseases in order to be fair. This might seem logical, but it fails to take into consideration the fact that these most of the patients who die of cardiovascular disease are elderly.

Thus, when you prevent a case of cancer in a patient aged 65, with a life expectancy of 15 years, it is less significant than preventing a case of tetanus in a patient aged 20 with a life expectancy of 45 years. To cope with this confounding factor, a new measure of disease was instituted: the burden of disease. It is a measure of the number of years lost due to a certain disease. One of the easiest ways to calculate the burden of disease is the Years of Potential Life Lost (YPLL). It is a measure of the years of life lost due to premature mortality.

YPLL is therefore a measurement of the reduction in “mean life span” (or life expectancy) caused by the disease. What I propose, in addition to this, and in order to increase equity in healthcare spending, is to take into consideration the disparities caused by the disease, which can be measured by the “standard deviation of life span” (SDLS) or preferably by the increase in SDLS, compared to a population devoid of the disease, that I name Increase in Life Span Disparity or ILSD:

\[
\text{ILSD} = \text{SDLS of a population with the disease} - \text{SDLS of a population without the disease}
\]

To clarify this, let us consider a population of 1000 individuals, and two situations:

1. A disease that affects half the population (500) causes a reduction of life expectancy by 20 years in affected individuals, giving a YPLL of 10000
2. A disease that affects all the population (1000) causes a reduction of life expectancy by 10 years in affected individuals, giving a YPLL of 10000

In the second situation the SDLS is almost nil (I will not go into the mathematical details to explain why it’s not nil) while in the 1st situation the ILSD is considerable. In other words, the first situation is more inequitable than the second since only half the population are carrying the burden of the disease, compared to all the population in the second situation.

In its report on the global burden of disease, the World Health Organization used the “disability-adjusted life year (DALY)” to measure the burden of disease [1]. DALY includes the YPLL as well as the “Years Lost to Disability (YLD)” [2]. The idea of using the standard deviation of life span could be extrapolated to the YLD as well. We would then calculate the SD of life years without disability in a population devoid of the disease, the SD of life years without disability in the population with the disease, and thus the increase in SD of life years without disability due to this disease (ISDLD). This value can be analyzed in the same way as the ILSD.

So in order to be more equitable in funding research and prevention programs, we must take into account primarily the YPLL, which is the reduction in the “mean life span” (or preferably the DALY) and secondarily the ILSD, which is the increase in the “standard deviation of life span” (or preferably the ILSD and ISDLD). Among the diseases with the highest burden are those that affect and kill a large number of young people, while the diseases that have a high ILSD are those that affect a small part of the population, especially diseases of the youth. Therefore, according to this reasoning, a large shift of funds should take place towards diseases that affect children and adolescents, if we want to be fair. Not only should funding increase for frequent diseases, but also infrequent diseases in order to reduce the disparities between people. It is our job as future medical doctors to work for a better and more equitable future, and epidemiological and mathematical reasoning are the tools that can guide us towards this goal.

References
The Economics of Interventions in Child Health

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Some don’t consider it as important as healthcare, but the economic aspect of child morbidity and mortality must be considered. Barriers to the achievement of child health may be demand side or supply side, these require different interventions. In Mexico, the main barrier was demand side. A conditional cash transfer programme; PROGRESA, was implemented and improved child health. In Tanzania, the main barrier was supply side. A health system support and training programme; IMCI, was implemented and improved child health. The suitability of the programme to the local context is of central importance.

Introduction:

It is an indisputable fact that millions of children die every year [1]. Millions more children suffer unnecessarily from preventable disease [1]. Health workers, policy makers and the general population are united in their agreement that this is wrong and that action must be taken. However, there remains disagreement on the way in which this death and disease can be reduced. For some, the answer is in science; these people call for more research and the development of new drugs. But it must be considered that we already know how to prevent and treat many of the major causes of child deaths. Malnutrition and diarrhea account for over half of all mortality in children under five [2] - science has given us its answers in these cases. Greater availability of nutritious food, good sanitation, and oral rehydration therapy are all that are needed to prevent most of these deaths. So, if these deaths occur despite the existence of scientific knowledge there must be other barriers. The awareness of social, political and economic determinants of health is growing as evidenced by Professor Marmot’s report for the World Health Organization (WHO) in 2008 [3]. This article will analyze the barriers to the achievement of child health from an economic perspective, looking at supply and demand side barriers.

“But we’re medics”

Many health workers and students do not like to engage in economic debate. They shy away from the admittedly complex arguments, exclaiming “but we’re medics” and retreat into the comforting world of lab tests and drugs. This is not good enough. Poverty is a significant cause of health problems and a major barrier for many in accessing healthcare [4]. Policy to reduce poverty, more often than not acts to improve the health of the population. In addition, the importance of economic factors in the day-to-day healthcare in low-income countries is obvious due to very limited funding, especially in these times of financial crisis. Consideration of economics is also important in high-income countries such as the UK where some expensive drugs must be rationed [5]. Many Ministers of Health and over 90% of WHO employees are doctors [6], these people are responsible for large budgets and many interact with donors giving considerable amounts of aid. Therefore it is important that we, as future doctors and perhaps future leaders in health, are aware of the economic aspects of interventions in child health as well as the biomedical dimension.

Demand side vs supply side

Economists divide barriers in access to healthcare into ‘demand side’ and ‘supply side’ barriers. Demand side barriers are those which inhibit the demand for healthcare being made, such as health knowledge, transport, and household preferences [7]. Supply side barriers are problems in the functioning of the healthcare system or things such as quality, efficiency, and availability of supplies [7].

Both forms of barriers can have the same result – poor child health – yet they require very different interventions. This emphasizes the importance of moving away from a ‘one-size-fits-all’ approach when dealing with the problems of child health. The individual context must be evaluated in order to determine the nature of the barrier in that region so that the most effective intervention can be implemented.

Demand side intervention

Child morbidity and mortality were high in Mexico in the 1990s. The source of the problem was considered to be demand side barriers – the healthcare was generally of good quality but many people were unable to access the facilities. The Mexican government implemented a conditional cash transfer programme; ‘Programa Nacional de Educación, Salud y Alimentación’ (PROGRESA) in 1997 [8]. It was targeted at the poorest households and rewarded attendance at child health clinics with payments. These payments were to compensate for the ‘opportunity costs’ of the parent in taking their child to the clinic – the wages lost through not working, the transport costs and other expenditure [4]. The payments also provided a simple, direct incentive for the parents and carers to take their child to the clinic as they were rewarded with around US$13 per month for attending all appointments. One in nine households in Mexico received PROGRESA payments, which were also given for school attendance [9]. For some of the poorest households the payments made up a considerable proportion of the

MSI twenty
household income [4].

Initial evaluation of the effect of PROGRESA has been positive. Research comparing those who received PROGRESA with a control sample showed that PROGRESA was associated with better growth and lower rates of anemia [10]. Further research showed that children in the intervention areas had higher height for age scores, lower stunting, and better cognitive development [11]. Overall, illness between 0–6 months was reduced by over 25% and the evidence suggested that the longer a child was within the programme the better their health became [9].

The short term goal of improving child health has thus been achieved by PROGRESA, resulting in its replication around the world in Brazil, Columbia and Bangladesh [4]. Time will tell whether PROGRESA achieves the long-term aim of breaking the intergenerational cycles of poverty that have persisted for decades. By investing in child health and education PROGRESA improves the capabilities of the upcoming generation of workers, investment of this kind in human resources facilitates the economic growth needed to fund social welfare programmes in the future.

However some consider that PROGRESA is too expensive, it costs over a billion US dollars, although this is only 0.2% of the gross domestic product of Mexico [12]. This high cost does mean that the intervention may not be replicable in very low-income countries. Other critics also suggested that it created a culture of dependency amongst parents and carers, who may not continue to take their children to school or the health facility if payments were ever stopped [4].

Supply side intervention

Tanzania, like Mexico, had significant child morbidity and mortality. However, unlike Mexico the primary reason for this was not considered to be weak demand – parents and carers were taking their children to health facilities, however the care given at these clinics was of poor quality. A conditional cash transfer programme, like PROGRESA, would have been misplaced in Tanzania as there was little need to provide incentive for health facility attendance.

A supply side intervention to increase quality was implemented; the Integrated Management of Childhood Illness (IMCI), a WHO and UNICEF initiative [8]. The major components of IMCI in Tanzania were health system support and health worker training, many of the health workers previously providing healthcare to children in the region had received very little training [8]. Research was conducted comparing areas which had IMCI implemented from 1997 with districts where IMCI was implemented much later. Results indicated better healthcare in the intervention districts with better examination and appropriate counselling of caregivers [13].

Following this success, over 100 countries signed up to the IMCI initiative [8]. A central tenet of IMCI was to begin the programme with local analysis and then initiate a locally appropriate programme, however severe lack of local epidemiological information in many of the countries resulted in limited success [4]. In addition the problems of health worker migration and the limited availability of trainers meant that many countries did not achieve the same results in child health as Tanzania [8].

Conclusion

In these times of limited resources it is more vital than ever that funding is prioritised for programmes which will address the barriers in the local area. The demand side barriers in Mexico were significantly reduced through implementation of PROGRESA, resulting in improved child health. The supply side barriers in Tanzania were likewise reduced through implementation of IMCI, also resulting in improved child health. Economic analysis of the underlying causes of child morbidity and mortality must be completed to ensure that the intervention is appropriately targeted.

References

[6] WHO docs employees
One of my friends has been a cocaine addict for 27 years. She started when she was 13 years old and hid her addiction throughout the time we were in high school together. A boy who hung out in my group of friends overdosed in his bedroom. His mother found him dead. He was 16. Another boy I knew who used drugs ended up convincing one of his friends to play “Russian roulette”. They put one round in the revolver and passed it back and forth. He is serving 15 to life in the state penitentiary; his friend is dead. These teens were all either friends or acquaintances of mine. We did not live in the inner city ghetto. We did not belong to street gangs. We were just average high school kids. You can find similar stories in the newspapers across the United States every day. Our youth are in trouble.

When I was in high school, Nancy Reagan was promoting her “Just Say No” campaign, focused on teens like myself in an attempt to dissuade us from using drugs. It didn’t make much of an impression on me one way or the other. Years later came the Drug Abuse Resistance Education Program, or “D.A.R.E.” lecturing teenagers at schools across the country. Although it does appear to convince kids who don’t have much interest in taking illicit or prescription drugs that they’re on the right path, I don’t know if it’s done much to help the kids who are most vulnerable. The teenagers who are in difficult situations at home involving neglect, physical or sexual abuse, depression, and a lack of coping skills are the ones upon whom we need to focus our efforts.

How do we reach the teens who are most vulnerable?

What can we do to show them there are different ways to cope other than the ‘escape’ route that they may feel drugs offer? We need to help them move beyond the escape route potential, we need to help them see beyond their current situation. We need a way to show them that the ‘worst thing ever’ (according to their limited experience) is not so bad in the grand scheme of life, without being condescending.

The current recommendations for protocol involving drug addiction involve what we should do after a teen is already using drugs. We’re guided to notice the signs of both acute and chronic use, but there is no standard approach for identifying kids prior to the point of addiction or to provide them with the tools that could help them avoid that path.

As with many other areas of medical practice, communication is key.

When I’m in clinic and a patient comes in who has uncontrolled diabetes, I feel frustrated because the disease can so effectively be controlled. It is also a disease that can cause serious sequelae in the future leading to extreme morbidity and even death. When I first started talking to diabetic patients about their disease process, it was apparent to me that there were several things preventing them from becoming involved in supporting their own health;

1. They felt overwhelmed,
2. They were often depressed,
3. They felt a little hopeless and had a sense of lacking control over the situation.

I found that speaking to these patients directly about controlling their disease was like pounding my head against a wall. Very rarely did I have any success convincing a patient they could make a difference with their diabetes if they didn’t believe they could.

One day, I tried another tactic to get through.

I spoke to a 45 year old man with diabetes about quitting smoking. This patient did not smoke, but I started telling him about smoking and how difficult it is to quit and all of the things that can happen down the road if a smoker doesn’t quit. I went on to tell him about the rationalizations smokers use; that smoking isn’t hurting them now, so they’ll just wait to quit until they start seeing some of the negative side effects from it. The man started to make some suggestions about how I could help patients who smoke. Then I asked him how he thought quitting smoking compared to having tight sugar control in treating his own diabetes. There was a pause, and then a smile started across his face.
“I get it”, he said. “This is going to be an every day thing, isn’t it?” I told him he was right, but that we would help him and encourage him along the way. I told him he wasn’t alone. His shoulders relaxed, I think because he finally believed me. The key was in building a rapport with the patient, engaging him in a non-threatening thought exercise, and allowing him to make the connection on his own.

**There are several obstacles to communicating drug prevention/or anti-drug themes to teens:**

1. Their brain development is not complete yet, this gives them limited ability to think abstractly.
2. They have a narrow experience base.
3. Many who have a difficult background may have a sense of animosity or distrust toward the adult who is trying to communicate the new ideas.
4. Teenagers have little grasp of the concept of mortality.

A teenager’s brain undergoes tremendous changes in myelination and pruning during the adolescent years that often reach into their early to mid 20’s. These changes can make it difficult for new, abstract ideas to stick. If an idea hasn’t already substantially taken root prior to this, or been repeated over and over again during the process, it can be easily swept right out with all of the other unused synapses.

**Two possibilities...**

For getting around these potential communication problems are finding means to provide alternative ways of thinking about problems before the teenage years begin, and finding ways to help teens realize the potential problems with drug use on their own.

Since drug use is a risky behavior, perhaps we can use other risky behaviors that are more socially acceptable to communicate the potential dangers. We could ask a teenage boy if they would ever accept a condom loose in a plastic wrap twisted up with a paperclip. This might suggest to them that they really don’t know the condition of drugs they may buy on the street. This will not be appropriate for every teenager that comes into the office, but it may be of use as an analogy for some.

**Conclusion**

Regardless of when kids are spoken to about drugs, the role of the physician not only can provide guidance about life decisions to a young person, but it can also provide an outlet for them. I’ve been in clinic with doctors who start seeing patients without the parents in the room as young as ten years old, depending on the maturity level of the child. The thought is to establish the doctor/patient relationship of confidentiality at a young age so that when adolescence is approached, a proper rapport will already be established and trust will be present. I don’t believe there is any one magic solution to drug use and addiction in our teenage population. Any analogies we use will need to be tailored to the individual patient. We need to ask questions and pay attention to body language. If answers don’t match body language, perhaps there is something deeper we need to follow up on.

As we move through our clerkships and then our residencies, we will have ample opportunity to tell patients facts, but many times, facts alone will not help a patient to be a participant in their own health care. Sometimes we have to be a bit of a salesman too. We often have to sell an idea or a way of thinking the patient doesn’t yet believe. We have to find a way to communicate in a language the patient sitting in front of us can understand. Sometimes this means giving an analogy of another patient’s problems in order for their own defenses to come down a bit. Sometimes it may mean planting an idea before a problem ever comes up. Whatever the case, we need to be vigilant and remain compassionate, non-judgmental, and honest with our teen-aged patients.

**References**

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A few days ago, I was forwarded a most unusual web site containing a lot of interesting statistical trivia. What makes it unique is the fact that the data presented occur in real time. I shall highlight some of the statistical data that I consider relevant to this forum. On July 2nd, 2009 at 1230 GMT, the time I happened to check the web site, the net population growth for the world for the preceding 12 hours was 107,027. A quick math will yield an annual population growth of about 78 million roughly 1.2% of the current world population of 6.7 billion, 25% of which are children. What I found most disturbing is that more than 5.5 million children have died so far this year before reaching their 5th birthday making the projected annual death rate for this group as 11 million. Even more alarming is the fact that the vast majority of these deaths were preventable as they were caused primarily by acute respiratory illnesses, infectious diarrhea and vaccine-preventable diseases such as measles, tetanus, *Hemophilus influenzae* type b and *Pertussis*. Most of these preventable deaths occurred in areas of the world that are stricken by abject poverty, where hunger and malnutrition are rampant and access to safe drinking water is exceptional. In fact, more than half of the deaths occurred as a direct or indirect result of hunger and malnutrition where the fatality rate from common childhood diseases rises sharply from 3 fold with mild to 9 fold with severe malnutrition. Thus, poverty, hunger and malnutrition are intricately connected elements, which singly or in combination account for the preponderance of diseases that result in fatalities and contribute to the statistics above. Which brings me back to our notorious web site, where I just found out that 120,000,000 US dollars (yes, 120 million USD) will be spent worldwide today on the purchase of video games. Another 180 million will be spent in the USA alone on weight loss programs. Finally, get this: over one billion dollars is what the world will spend today on illegal drugs (tobacco products not included). I could go on with more alarming statistics but I believe these will suffice. For the record, I checked other sources including WHO and FAO bulletins for reliability of the statistics and they concur.

As a pediatrician involved in the care of children for the past 40 years, I can't express enough anger and frustration at these wanton fatalities but at the same time I can't expiate myself from a sense of guilt and responsibility. Where have we gone wrong? How can the world community at large and the medical community in particular remain idle to these appalling statistics?

In sum, we have two main issues to contend with regarding the health of children in the world today. The first is an economic one where an obvious inequity of resources has created a major schism between the have and the have nots. The second, and inseparably important and more urgent, is a humanitarian one.

Identifying problems is obviously much easier than finding solutions. While I make no claims to have the answers, it is clear that rich countries of the world need to reset their priorities and allocate a greater share of their wealth to help their less privileged counterpart. Help should be channeled through NGOs and not government ministries. Philanthropic agencies and individuals are desperately needed to help ease off the humanitarian crisis currently afflicting the health of millions of children worldwide. I close with a quote from one of the world’s greatest physician/humanitarian, Dr Albert Schweitzer: “Until he extends his circle of compassion to include all living things, man will not himself find peace.”

Author:

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Perspective of Dietary Supplements Use in Young People
A Reflection

Melissa Castillo Bustamante, Universidad Pontificia Bolivariana, Colombia

Dietary supplements are very popular around the world, with their use increasing over the last few decades among adolescents and adults [1]. These kinds of products are used as medical complementary therapies and are also considered as alternative therapies; their composition are usually from herbs, hormones, psycho stimulants and other components known as nutritional supplements.

Fitness, an increase in body mass index, enhanced athletic performance and improving physical skills at gyms or Medical Sport centers are some of the reasons for using dietary supplements among adolescents and adults. Young people are surrounded by media, friends and family who influence their quest for improved fitness and perfect body shapes, and these influences have lead them to try every type of therapies including dietary supplements in their attempts to seek beauty and improved athleticism. These are over-the-counter products and can be obtained without any special permission from physician or nutritionist for young people.

A study in the Journal of Adolescent Health [1] on special consumption of dietary supplements, found that among Canadian adolescents, 42.5 % of the study group had taken at least one dietary supplement in the past year. Wilson et al [2] analyzed a similar phenomenon in the United States, and found dietary supplement consumption among adolescents to be 29.1%. In Colombia, Martinez et al [3] observed the consumption of dietary supplements in kids under 18 to be 33 %. Multivitamin and mineral preparations are common supplements consumed by young people who believe they are taking a product that will help their bodies, but what many of them don’t realize is that they are consuming creatine, herbal ephedrine, and protein supplements as well [2]. Some of these ingredients, if used inappropriately, could be dangerous for the heart, liver and kidney especially. People often believe that herbal products are only beneficial for health, and have little adverse effects [3].

This data shows that adolescents are major consumers of herbal supplements, especially in the Americas. The question is, what are the medical personnel and health-care services doing about increased consumption in young people? This should serve as an invitation for physicians and medical students to screen high-risk young adults for inappropriate supplement use, because this rapid increase in dietary supplement use and abuse is a major health concern. Although these products are easy to acquire and consume, they must be given under medical or gym personnel recommendation, because patients must be individualized according to their physical status, sportive abilities, diet and lifestyle; also parental support is essential in dietary supplement consumption, because they are the ones who have the most influence on the development and growth of the adolescent.

Education is the key to monitoring dietary supplement consumption in adolescents, because what they do in this decade of life will vastly impact their health in the future. Education is the key to monitoring dietary supplement consumption in adolescents, because what they do in this decade of life will vastly impact their health in the future.

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Education is the key to monitoring dietary supplement consumption in adolescents, because what they do in this decade of life will vastly impact their health in the future.

Overall consumption is increasing and this is a call for you, wherever you are, to become aware of it. In my country we are trying to investigate and make a change, what about in yours?

References


Nepal is one of the poorest countries in the world. The nutrition profile (see table) shares some of this story. For a child living in these conditions; growing up is a serious hazard. It is reasonable to think that in these desperate circumstances, education will often take a back seat to basic needs such as food, water, and shelter; that going to school might be less important than having enough to eat for today. But without education many of these children will find it hard to get good jobs and earn enough money when they grow up. In turn, the future of their children is in peril of repeating this same cycle of poverty and lack of education. William Wordsworth gleefully commented that the “Child is the Father of the Man”. Perhaps breaking this vicious cycle of poverty lies in these powerful words.

Education is a powerful tool that gives everyone a fair chance. Education is perhaps one thing that makes sure that people are judged not on the basis of cast, creed, or color, but on the basis of their merit. So educating people is the primary way of empowering a society. With education it is possible to make people think beyond the hopeless customs and traditions and make them more open to change. Nevertheless, encouraging education in these parts of the world is a great challenge.

The Government of Nepal in association with the World Food Programme (WFP) had previously started a program where children would get one free meal a day at schools. A popular food known as “Haluwa” was provided as a daytime snack for everyone attending the school. Another WFP Girls initiative Program made sure that the female students were eligible for 2 liters of vegetable oil per month for attending 80% of classes. Another program targets the “Dalits” or “the oppressed” and gives a family 200 Nepali Rupees per child per month for sending their children to school. Often these programs are combined with the regular healthcare programs of deworming and immunization. All good and well for addressing the issues of health and education at the same time. Measures like these have meant

### Nutritional Profile (reference year)

<table>
<thead>
<tr>
<th>Nutritional Profile</th>
<th>Value</th>
</tr>
</thead>
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<tr>
<td>Per Capita Energy Supply - kcal/day</td>
<td>2436 (2000)</td>
</tr>
<tr>
<td>Energy from Cereals</td>
<td>75.00% (2000)</td>
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<tr>
<td>Per Capita Protein Supply - g/day</td>
<td>62.3 (2000)</td>
</tr>
<tr>
<td>Per Capita Fat Supply - g/d</td>
<td>35.9 (2000)</td>
</tr>
<tr>
<td>Children &lt;5 Underweight</td>
<td>47.1 % (2000)</td>
</tr>
<tr>
<td>Children 6-59 months stunted</td>
<td>54.1 % (1998)</td>
</tr>
<tr>
<td>Children 6-59 months wasted</td>
<td>6.7 % (1998)</td>
</tr>
<tr>
<td>BMI &lt;18 in women</td>
<td>26.7% (2001)</td>
</tr>
<tr>
<td>Overweight Children</td>
<td>1% (1996)</td>
</tr>
<tr>
<td>LBW babies (&lt;2500g)</td>
<td>20.9% (2000)</td>
</tr>
<tr>
<td>Exclusive breast-feeding in infants &lt;4 months</td>
<td>79.8% (2001)</td>
</tr>
<tr>
<td>Breast-fed with complementary food in infants 6-9 months</td>
<td>65.7% (2001)</td>
</tr>
<tr>
<td>Prevalence of anaemia in pregnant women</td>
<td>65 % (2000)</td>
</tr>
<tr>
<td>Prevalence of anaemia in children</td>
<td>78.0 % (1998)</td>
</tr>
<tr>
<td>Prevalence of Bitot Spots due to vitamin A deficiency in school-aged children.</td>
<td>0.33% (1998)</td>
</tr>
<tr>
<td>Prevalence of nightblindness due to vitamin A deficiency in pre-school children.</td>
<td>0.27% (1998)</td>
</tr>
<tr>
<td>Percent of children 6-59 months who received at least one high dose vitamin A capsule in the last six months (1999)</td>
<td>84.6 % (1999)</td>
</tr>
<tr>
<td>Total Goiter Rate in schoolchildren</td>
<td>40% (1998)</td>
</tr>
<tr>
<td>Median Urinary Iodine in schoolchildren</td>
<td>143.8 µg/l</td>
</tr>
<tr>
<td>Iodized Salt Consumption (proportion of households consuming adequately iodized salt (15 parts per million)</td>
<td>62.6 % (2000)</td>
</tr>
</tbody>
</table>
that the Net Enrollment Rate (NER) for primary level increased from 60% in 1990 to 68% in 1995. It jumped to 89% in 2006/2007. The NER was 90% for boys and 87% for girls (2006). The gender gap in education seems to be closing as measured by Gender Parity Index (GPI) which improved from 0.77 in 1998 to 0.95 in 2006.

Primary level education is now free for all students. The government also provides free books at the primary level. Encouraging more children to attend schools is an important concept, for there is enough evidence to suggest a direct relation between education and economic growth and productivity. One study compared statistics from 1960 to 2000 in 50 countries and showed that an additional year of schooling was equivalent to an average annual GDP increase by 0.37%. Another study found that extra year of schooling meant an increase in individual earning by 10%.

Overcoming the burden of poverty and moving beyond the barriers placed by age old traditions will require many years, but education is a great tool in fighting these evils. It is perhaps the most important tool in making sure that people don’t remain unaware to the important issues facing them in their lives.

In prioritizing policies in poor countries, education and health would often seem to be at the forefront, and it is encouraging to see the attempts to combine both programs in a developmental agenda. It is high time to realize that education and health are mutually inclusive when investing in child development in poor countries such as Nepal. I hope that these programs started by the WFP are continued all across the globe and benefit the poor and the marginalized in other countries like they have in Nepal.

In this context, it is worth remembering the words of Garrison Keillor, American author and storyteller, who once said, “Nothing you do for children is ever wasted. They seem not to notice us, hovering, averting our eyes, and they seldom offer thanks, but what we do for them is never wasted.”

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For thousands of years the human race has succeeded in surviving many diseases, wars, ethnic conflicts, storms, volcanoes, etc., because of the great gift we have received from God: our highly evolved brain. Since man first came into existence he has been seeking knowledge and looking for the secrets of different creatures such as bacteria & viruses, and ways to defeat them by cures or vaccines. However, many of our efforts to eradicate these organisms have been unsuccessful, and we have an even greater challenge with the pollution and waste of our natural resources.

Since water is the core of life, the human race is facing a great challenge since over one-half of the world’s major rivers are being seriously depleted and polluted, degrading and poisoning the surrounding ecosystems, thus threatening the health and livelihood of people who depend upon them for irrigation, drinking, and industrial water. Furthermore, there is more waste water generated and dispersed today than at any other time in the history of our planet. The amount of fresh water that is accessible in lakes, rivers and reservoirs is less than a quarter of 1% of the total water on earth.

Water is considered an essential nutrient because the body cannot produce enough water by itself to fulfill its needs. When the quantity or quality of water is inadequate, health problems result, most notably dehydration and diarrhea. As a result of contaminated water and poor hygiene, related infections are still a serious problem. Indeed, water availability and sanitation are critical issues because of the prevalence of childhood diarrhea & dehydration.

The major threat on water is pollution from sources such as geology of aquifers from which groundwater is abstracted, industrial discharge of chemical wastes and by-products, discharge of poorly-treated or untreated sewage, slash and burn farming practices (a common element within shifting-cultivation agricultural systems), surface runoff containing spilled petroleum products and underground storage tank leakage. All of these problems lead to soil contamination, and henceforth aquifer contamination. This allows for the growth of many disease-causing organisms in water, especially drinking water.

Water is a major reservoir for many enteric parasites, including:
- **Shigella** species, and **Aeromonas** organisms that are associated with exposure to the marine environment.
- **Giardia**, **Cryptosporidium**, and **Entamoeba** organisms are resistant to water chlorination; therefore, exposure to contaminated water should raise index of suspicion for these parasites.

Very young children are particularly susceptible to diarrhea & dehydration. Age and nutritional status appear to be the most important host factors in determining the severity and the duration of diarrhea. In fact, the younger the child, the higher the risk.

Mortality from acute diarrhea is globally declining overall, but still remains high. Most estimates have diarrhea as the second cause of childhood mortality, by accounting for 18% of the 10.6 million yearly deaths in children younger than age 5 years.

The most disconcerting news about this crisis are what has been reported by international corporations such as the United Nations (UN), the International Atomic Energy Agency (IAEA) and the World Water Council (WWC). The UN estimated that 2.7 billion people will face severe water shortages by the year 2025 if the world continues consuming water at the same rate:

- The IAEA, estimated 1.1 billion people lack access to safe drinking water, 2.5 billion lack proper sanitation, and more than five million people die from waterborne diseases each year. Less than 3% of the Earth’s water is fresh and most of it is in the form of polar ice or too deep underground to reach for our use.
- The WWC estimated 1.1 billion people lack access to safe drinking water, 2.6 billion people lack adequate sanitation, 1.8 million people die every year from diarrheal diseases, including 90% of children under 5.

This situation is no longer tolerable. In addition, the world’s population has tripled in the 20th century, but the use of renewable water resources has grown six-fold. Within the next fifty years, the world population will increase by another 40 to 50%. This population growth - coupled with industrialization and urbanization - will result in an increasing demand for water and will have serious consequences on the environment.

Who will be affected the most by this, the poor or the rich countries? Obviously the poorest are most at risk, especially in rural communities in Africa, where many people walk long distances about 2 to 3 kilometers daily to a...
public water source while carrying heavy water containers on their heads weighing 20 to 25 liters. The water ministers from 22 African countries have called for a regional and global alliance, backed by international funding, to tackle water and sanitation problems, since the implications of the water crisis will be the most extreme for the citizens of their countries. Sub-Saharan Africa houses some of the poorest people in the world, and a water shortage here will severely limit their ability to grow the crops which they depend on for their survival. However, the rich are also at risk according to new figures from the UN Economic Commission for Europe. According to this report, at least 120 million people living in Europe - one in seven of the population - still do not have access to clean water and sanitation and the UN body says wasted water is costing Europe around $10 billion a year.

What are the consequences of this water crisis? Too numerous to count, because it will affect all of us. It is undeniable that there is a water crisis at present, but the crisis is not only in having too little water to satisfy all of our needs, but in managing the remainder of it so as to cut back on needless waste so that our children may have a future.

Most problems facing the present-day youth are related to drug abuse, sexually transmitted infections, or mental illness. Moreover, there are many other outcomes related to these behaviors, such as teenage pregnancy, obesity, or injuries.

Alcohol and drugs. Over the last few years, alcohol drinking has increased considerably among teenagers. What is more, they begin drinking at an earlier age, and more of them become drunk when they go out with friends. Teenage drinking is at an especially higher rate in the Netherlands or the United Kingdom. Additionally, abusing drugs like cannabis or cocaine has also increased in present times, especially among men.

Tobacco. Smoking tobacco increases the probability of cancer, and is also a major risk factor for heart disease, chronic obstructive pulmonary disease, and emphysema. Tobacco use is widespread all over the world, but rates are especially high among girls in western European countries and boys in Canada or the United States.

Sexually transmitted infections. The most effective way to prevent any infection is to avoid contact with body parts or fluids. On average, between 70-80% boys and girls report using a condom or at least one form of contraception. Nevertheless, the number of cases of infections has increased over the last few years.

Mental illness. Young girls tend to be affected more by anxiety, while young boys tend to present with different kinds of conduct disorders. Furthermore, an unhealthy view of body image is higher among girls than boys, and is one of the predisposing factors of anorexia nervosa.

Physical activity. It is recommended at least one hour per day of activity at least five days a week. Young adults must be taught the importance of exercise from a young age because lack of exercise can lead to obesity. But exercise isn’t enough to keep one healthy; you have to combine it with a healthy diet that includes fruits and vegetables. On the whole, I strongly believe that we must promote initiatives to include young people in a new way of thinking, involving them in developing policies and health services for young people. Additionally, providing training to teachers and other school personnel in recognizing early signs of mental illness and alcohol or drug abuse could be very useful. Moreover, I believe that we could promote a program to train families in how to deal with young people’s development needs, particularly in the areas of mental, sexual and reproductive health, and alcohol and drug abuse. I think we can address the dangers and temptations facing our youth, but have to have the adequate resources to support them during their teenage years, when their decisions can endanger their lives not only in the present, but also in the future.

References

Help for Children with Hearing Loss

Price Not Only for Hearing

Anna Zlabova, IFMSA-CZ, Czech Republic

This article deals with two big medical problems of children’s ENT in the Czech Republic – early diagnostic of hearing loss and cochlear implant financing. The main goal is to inform you about this uncommonly discussed theme and give you a tip for attention and thinking about it. The inspiration for writing about this topic comes from our recent ENT lessons and discussions with assoc. prof. Zdenek Kabelka, M.D., the dean of the Cochlear Implant Centre in children, unique centre in the Czech Republic.

One of the most important prognostic factors for children with serious hearing loss is an early diagnosis. Good hearing perception is a necessary condition for development of an understanding language and for speaking. The brain cortex loses cells if not regularly stimulated, and that is why it’s necessary to begin with hearing rehabilitation in time – using a hearing aid from 6 months, and cochlear implants ideally from 2-4 years. Serious hearing loss can be solved in early childhood, but not later. Most experts agree that children need to be diagnosed at least by age 6.

In the Czech Republic there are about 5000 newborns with hearing loss each year (not only with deafness). The idea behind supporting an institutional screening test for hearing loss in children around 8-9 months is one of the most discussed themes in Czech medical society. It means that nonsyndromatic and apparently normal children with damaged hearing often remained undiagnosed. The realization of the above statement depends on the cooperation of doctors and politicians. Currently, there is no national auditory screening program in the Czech Republic, however I support the development of one, and hope that it won’t take long to establish aural screening to detect hearing damage in infants.

The second problem in our country is related to cochlear implants. In the Czech Republic there are only 2 cochlear implant centers; one for adults, and one for children. Both are in our hospital (University Hospital Motol in Prague). There are about 30 children who receive implants each year. In opposition to a hearing aid it is very expensive and narrowly intended for “perspective patients” - those who have developed language before their hearing loss or those who receive their implants at a very young age. Candidates must be tested by many specialists (neurologist, psychiatrist, ENT doctor, speech therapist etc.) before implantation and it must be proved that using a hearing aid hasn’t had a satisfactory effect for perception. The reason for this extensive screening is that the price for cochlear implants is around 35 000 American dollars. Therefore each patient usually only receives one implant. The question is, how large is the handicap in comparison to the use of bilateral cochlear implants? Bilateral hearing is necessary for sound localization (stereo hearing). Thus, it is necessary for the development of some specialized brain abilities. So the question is: are stereo-hearing and better speech understanding really worth the extra 35 000 dollars?

Conclusion:

It is necessary to detect hearing loss in early childhood because the help by hearing aid or cochlear implants must come as soon as possible because of development of auditory brain cortex. In some countries was established a screening of hearing, but in the Czech Republic it doesn’t exist. In cases when a hearing aid doesn’t help to child with hearing loss, they could be indicated to cochlear implantation. It is relatively expensive and only unilateral is paid by insurance companies in our country.
As a third year medical student rotating in OPD Pediatrics, I have come across a lot of pleasant encounters of parents and their children as well as a handful of horrid examples of human neglect. I may be seen as judgmental by some, but my rationale stems from the ultimate core of my conscious – competence. Ultimately, the unforgiving sight of neglected infants still haunts me.

During my second week in Pediatrics – already exposed to puffy, marshmallow-soft babies – I was astounded by a case presentation discussing two 3 month old twin girls. They were described as being born prematurely and underweight (approximately 1500 grams) and to be very thin despite bottle feeding. I do not recall the frequency and amount of milk each consumed nor any history of vomiting and diarrhea. Initially, I had paid little attention to their morphologic description while attempting to formulate a differential diagnosis of their pathology. As soon as they were brought into the examination room, my attention changed.

Two babies wrapped in thick blankets with big bulging eyes, each carried by a parent, was the first thing I saw. Upon the request of the attending physician, one child was placed on the examination table and the blanket was removed. To my horror, I envisioned the National Geographic image of the cachectic (incredibly thin and malnourished) African boy sitting with knees tucked under chin. I saw absolutely no baby – considering the bundles of fat I had already grown accustomed to. The first thought that raced into my mind was “how can you [parents] look at your infants and do nothing for so long?”

The description of both babies was as such: imagine two stick figures; now add sound, sudden jerky movements, and big eyes that stare at you.

The attending was suspecting Celiac Disease and demonstrated the “absence” or wasting of the gluteus muscle suggestive of advanced disease. In order for a baby not to have a derriere, it really has to be extremely malnourished.

My issue is with the incompetence of parents. How can parents be so neglectful? Parents often know when a child is hungry, sleepy, gaining weight, strength, and vocabulary. How could they not have realized that their babies were “wasting away” or have waited for so long if they already knew? I quote from Wikipedia.org, “Both severe and moderate cases of malnutrition have a significant impact on the outcomes children face for the remainder of their lives and are also a cause of severe illnesses leading to growth retardation both physical and mental, and possibly death.” They realizing that their daughters were shrinking rather than growing, should have sought medical help initially and sooner, and not have waited until their offspring were cachectic.

Social services should have been informed and involved about such instances but I do not think our Children Protective Service (CPS) in Lebanon is as protective and reprimanding (to the parents) as compared to the United States. Parents need to be punished for the harms they inflict on their children, if and only if the harm is an established “wrong.” But I am sure that malnourishment or child starvation is third after physical and sexual abuse.

Unfit and/or incompetent parents procreating are unethical. Pediatricians should assess whether or not parents are rearing their children adequately and report them to the CPS if not. It is unacceptable for children to be brought to life and then suffer from neglect and abuse.

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