Forum: World Health Organisation (WHO)
Issue: Strategies for the Reduction and Prevention of Lead Exposure in LEDCs
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Introduction:

As of 2019, according to the WHO, it was estimated that lead exposure accounted for "21.7 million years lost to disability and death". Lead exposure is a pressing global issue, particularly prevalent in Less Economically Developed Countries (LEDCs), with dangerous consequences for human health and the environment. Lead exposure occurs when individuals come into contact with lead, causing harm to various organ systems. It remains a significant challenge in LEDCs due to its multiple sources of exposure. Addressing lead exposure requires comprehensive strategies, including increased awareness, prevention, and environmental remediation efforts. Collaborative action involving governments, international organisations, and communities is essential to combat this complex issue.

Definition of Key Terms:

- Less Economically Developed Countries (LEDCs): LEDCs are nations where people have limited access to nutrition, healthcare, & education, people tend to have lower incomes, and the economy is usually agriculture based.
- Lead Exposure: Lead exposure is a harmful issue caused when individuals are exposed to lead, this settles in teeth and bones and can cause issues in many organ systems, including the nervous and cardiovascular systems.
- 3. Environmental Remediation: Environmental remediation entails removing contaminants from soil, water, and other media. In this case, remediation involves clearing the environment of lead to prevent damage to humans and the environment.
- 4. Sustainable Development: Sustainable development aims to ensure economic and social development while preserving the quality of the environment for future generations. Lead exposure does not only harm humans but the improper disposal of it leads to environmental degradation.

Background Information



Lead exposure is a significant concern in the world today, particularly in LEDCs due to various sources and routes of exposure. One of the primary sources of lead exposure is lead-based paint. When this paint chips, it releases lead particles into the air, which can be inhaled. Another form of exposure is through water pumps and fixtures that contain lead, leading to contamination of drinking water. Certain occupations also involve the use of lead-based materials, bringing lead particles into homes and workplaces.

Consequences

Lead exposure in LEDCs has severe consequences, particularly for children, they remain the most vulnerable. In adults, lead exposure can result in various health complications. The issue is, many of the symptoms of lead exposure only show up at moderate to high levels of exposure. These symptoms can still be easily mistaken for other health issues.

Even low levels of exposure can lead to lifelong health problems. It affects multiple organ systems, including the cardiovascular and nervous systems. At high levels of exposure, lead can directly affect the brain and central nervous system. Survivors of severe lead poisoning may experience long-term intellectual disabilities and behavioural disorders.

Date	Description of event
2000 BC	Problems due to lead mines were first documented.
1500s	Lead poisoning was used as a murder weapon for assassinations in Renaissance Europe.

Timeline of key events

Late 1800s	Lead poisoning and the effects of lead began being reported in medical
	reports.
1940s	Doctors began understanding the severity of lead poisoning.
1970s	The effects of lead poisoning on fetuses and newborns were studied.
1975	The first textbook was published on the impact of neurotoxicants on
	behaviour and brain function.

Current Situation

In 2019, almost 1 million lives were lost due to lead exposure, it poses significant health risks, particularly to vulnerable populations such as children and marginalised communities. Multiple sources of exposure contribute to the widespread problem, including lead-based paint, contaminated soil, and improper recycling. Addressing this issue requires comprehensive strategies that include regulation, prevention strategies, environmental remediation, and increasing awareness about the dangers of lead exposure and the tools available to mitigate its impacts.

Sources of exposure

Lead exposure in LEDCs can arise from various sources. Chipping lead-based paint poses a significant risk, especially when children inhale the dust or ingest paint chips. Lead can settle in soil, which children often play in, and can be tracked into homes on shoes. Furthermore, certain occupations can introduce lead into homes and environments. Another concerning source is the burning of e-waste.

Most Affected

Several groups are particularly vulnerable to lead exposure in LEDCs. Those living in areas with multiple sources of exposure, particularly urban regions with heavy industry and limited environmental protection, or with jobs in which they come into contact with lead, face higher dangers of lead exposure.

Environmental Justice

Lead exposure in LEDCs often disproportionately affects marginalized communities. These communities tend to reside closer to toxic sites and have limited access to resources to mitigate lead exposure risks.

Lack of awareness

One significant challenge in addressing lead exposure in LEDCs is the lack of awareness among communities. Many do not understand the sources of exposure or the tools to reduce the impacts of lead exposure.

Current measures

Currently, many nations have banned the usage of lead in paint and leaded petrol, however, there are still nations that have not taken such measures. While nations are trying their best to reduce the sources of lead exposure, there is still a long way to go in removing occupational exposure and ensuring the safety of all individuals.

Major Parties Involved and Their Views

The Republic of Colombia

Lead exposure and mitigating its health-related impacts is of utmost importance to the Colombian government. This began due to the particularly high amounts of lead in paint and the lack of awareness of the consequences of lead contamination. While the government has taken steps of their own to mitigate the issue of lead exposure, they have also been a key part of the WHO initiative to eliminate lead paint and prevent lead exposure.

United Mexican States

Mexico is a large contributor to the global lead-production, specifically, it is the sixth largest contributor. However, not only does Mexico produce lead, 40% of its production is used in industrial processes which causes lead contamination. Furthermore, the Mexican government is yet to ban leaded paint and lead in canned foods and drinks. The government aims to reduce lead exposure while still preserving its effects on the economy.

The Republic of Peru

The Peruvian government is currently trying to do their utmost in reducing the impacts of lead exposure. Particularly in the city of La Oroya, the country's largest and oldest smeltering and refining centre for lead, copper, and zinc. While this city is beneficial to the country's economy, it remains extremely polluted. The main reason for lead exposure in this area is occupational exposure for employees.

The People's Republic of Bangladesh

Bangladesh has the fourth highest number of individuals affected by lead exposure, the majority of which are children. As of 2020, 35.5 million children in Bangladesh were affected by high blood lead levels. The main cause of this amount of lead exposure is due to the illegal recycling of lead-acid batteries near homes in close proximity to children.

United States of America

While the USA has reduced lead exposure over the past few decades, certain groups are affected by lead poisoning disproportionately. The U.S. Environmental Protection Agency has developed a strategy to reduce lead exposure and inequality. The lead strategy focuses on four goals: reducing community exposures to lead sources, improving health outcomes in communities with high lead exposures, enhancing communication, and supporting research to reduce lead exposures and related health risks.

The Republic of South Africa

In South Africa, the prevention of lead exposure remains a significant public health challenge. A wide range of lead sources still exists in South Africa, putting certain groups at high risk of exposure. These sources include lead in petrol, lead in paint, melting of lead in fishing communities, etc. The challenges in addressing lead exposure in South Africa stem from the low awareness of lead hazards. Addressing this problem requires efforts to raise awareness, enforce regulations, and implement targeted prevention strategies to protect public health.

The Republic of Zimbabwe

Lead paint is one of the largest sources of lead exposure, particularly as it is not banned in Zimbabwe. In a study published in 2022, based on the current WHO guidelines, paint samples were analysed for their lead contents. The cause for concern was that 70% of these samples indicated a level of risk, 60% indicated a high level of lead, and 20% indicated an extremely high level of lead. The Zimbabwean government needs to mandate lead paints and initiate monitoring processes to mitigate the effects of lead exposure.

The Democratic Republic of Congo

In the DRC, leaded paints are not the only concern for lead exposure, rather leaded gasoline is not yet banned and there are many occupations with exposure to gasoline. A study was published in 2010 in which the blood lead levels in 485 healthy adults in the Kinshasa population were tested. It was found that individuals in occupations related to gasoline indicated especially higher levels of lead in their bloodstream.

UN Involvement, Relevant Resolutions, Treaties and Events

- Eliminating exposure to lead paint and promoting environmentally sound management of waste lead-acid batteries, 30 January 2018 (UNEP/EA.3/Res.9)
 - The resolution calls on governments to develop and implement legislation or regulations to eliminate lead paint. It has been quite effective as many nations that had not yet banned lead products have begun implementing proper management of lead products.
- Strategic Approach to International Chemicals Management (SAICM)
 - The SAICM is a global initiative led by the UN Environment Programme to promote chemical safety. This is achieved through providing policy advice and capacity-building initiatives. SAICM has been quite effective and has become an integral part of global efforts to ensure the safe management of chemicals.
- International Lead Poisoning Prevention Week
 - o International Lead Poisoning Prevention Week is an annual event held from October 23-29 that raises awareness about the dangers of lead exposure and promotes actions to prevent lead poisoning. During the week-long campaign, various stakeholders come together and hold workshops to advocate for the elimination of lead in paint. International Lead Poisoning Prevention Week is extremely effective at raising awareness and creating a global movement to eliminate lead exposure.
- The Global Alliance to Eliminate Lead Paint

o The Global Alliance to Eliminate Lead Paint is an initiative to address the detrimental impact of lead exposure. The alliance aims to promote the proper management of chemicals and waste by providing policy advice and technical guidance to developing countries. It has been quite effective in encouraging countries to ban lead in paint by the year 2020 to minimise its adverse effects on human health and the environment.

Possible Solutions

To write operative clauses, it is necessary that the clause is started with operative phrases ended with a semicolon. For this topic in particular, it is important to consider a multi-faceted approach when writing good clauses, there should be sub-clauses adding to the main topic to provide further clarity and detail.

One crucial solution is to check drinking water sources for lead contamination and renovate homes safely, especially those built in the past with potential lead-based paint. Furthermore, when donating toys, careful screening should be done to ensure their safety.

Additionally, increasing awareness is of utmost importance, particularly to help communities make informed choices, for example removing shoes when entering homes can prevent lead particles from being tracked indoors. Implementing safety measures for working with lead, such as using separate work clothing and immediate changing, is also necessary. Public awareness campaigns, targeting parents, schools, community leaders, and healthcare workers, can educate individuals about the dangers and sources of lead exposure.

Removing lead from paint and leaded petrol is also crucial in reducing overall exposure. Governments can provide incentives for paint manufacturers to switch to lead-free alternatives, and enforcing limits on lead content can ensure compliance. Effective policies need to be implemented on various scales, from local to global, with equitable access for all. To ensure equitable access, blood lead level screening can be integrated into existing health surveys, providing a cost-effective means of early detection and intervention.

In conclusion, addressing lead exposure in LEDCs requires a collaborative effort. Implementing comprehensive strategies, both at a micro and macro level will allow societies to significantly reduce lead exposure. By taking decisive and unified measures, LEDCs can make significant progress in reducing and preventing lead exposure, ultimately leading to healthier and sustainable communities for future generations.

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