Case Study

Name

Institute name

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**Introduction**

This case study is about the lead poisoning cases in children in New York and the role of the government to overcome this emerging issue. It affected the population severely from age one to six. There were a lot of deaths recorded from this case, and some other issues like kidney disorders, retardation, and epilepsy. It was mostly found in slum children who ate chips which included lead. Some children were eating the paints on the walls. Children were peeling the paints from the wall. According to the medical research, 20 microgram per 100 ml blood is the normal range of lead in human. While 40 microgram per 100 ml blood is more is a dangerous level which can cause lead poisoning. According to the doctors, 40 microgram lead per 100 ml blood can cause mental damage to children. In New York, 60 mcg per 100 ml blood was recorded in many extremely dangerous patients. The cases of lead poisoning in New York started in 1940 which was continued till the 1960s. In 1940 the government had banned painting the interior walls of homes. However, in slum areas in the 1960s, it still existed in many buildings. In 1959 painting the interior walls in New York were declared as, but still, there were some houses in slum areas which were painted. Initially there were no symptoms of the lead intake in patients for some time; however, after a certain time, unspecific fatigue and nausea were the possible symptoms of lead poisoning. There were many deaths occurred due to lead poisoning which was reduced to a great extent in the late 60s. There were only two death cases recorded in 1969 which was clear evidence of the success of health care administration. The health department had played a vital role to control this issue. However the role of public administration, in this case, was not significant, and other concerned departments did not play their roles in a good manner. It was not possible to eliminate this poison from the body. Up to a certain level, the amount of lead could be reduced; however, the retake of lead could create problems. It was treated with chelating agents who draw out the amount of lead from the body. The chances of complete recovery become lower when the children were poisoned. According to a survey report in 1968, 121,000 children were affected with lead poisoning due to the intake of wall paints.

Moreover, children born in such an environment were at risk, and there were some cases recorded that children on three months had lead poisoning. A three months child cannot eat wall chips. The children during that time were found dead in their blood; these cases varied from 6000 to 30000. Here we will discuss the role of the government agencies to overcome this issue. According to Kianoush et al., (2015) lead poisoning also called plumbism is one of the threatening environmental and occupational problems which affected millions of the population including both children and adults all over the world. Occupational lead exposure can be reduced in the wealthy countries by minimising the high dose occupational lead exposure of the adults to the sub-clinical exposure in younglings at the large scale. It was first believed that children have lead poisoning due to the paints of walls. However, there was some evidence which proved that some breastfeeding children also have this issue. These children have problems due to the lead-contaminated environment. There study found the possible link between the blood lead concentration and various health complications in children and adults. The appropriate preventions and clinical management can control and eradicate these risks. As lead is a toxic element which is stored in our body, its excessive amount can cause many health complications, and its removal is possible to a great extent, preventive measures are also helpful. Chelation therapy is the standard treatment for controlling this issue. Moreover, the new researches found that there are some medications which are less toxic such as garlic tablets which can be used for treatment when the case is mild to moderate. Lead can be found in many sources, in the environment. There are some areas where the water is lead-contaminated due to the plumbing materials. There are many causes of lead poisoning, not limited to the wall paints, but also in the air, water, and food. In case only the wall paints were highlighted, we will discuss various causes and its solutions in the study.

**Discussion**

 Initially, it is tough to identify the lead poisoning even the people who were healthy had a higher level of lead in their blood. The signs and symptoms did not appear until it reached the dangerous level and accumulated in the blood. Lead-based paint and the dust contaminated with lead in the old buildings are the conventional sources of lead poisoning in children. Other sources of lead poisoning are contaminated soil, water, and air. Adults working in different factories and workshops especially working with batteries, home renovations and auto workshops are more exposed to lead (Tirima et al., 2016). There is a treatment for lead poisoning however the precautions would help to protect a person and family as a whole from the exposure to lead prior to the harm caused by it (Tirima et al., 2018). In Nigeria, there were 500 to 600 cases of childhood deaths due to lead poisoning. The causes identified there were contaminated water. The water included an excessive amount of lead which was caused by the lead made low graded pipes. According to Megavern (2018), there is a dramatic decline in the blood lead level in children in the USA in the past few decades. However, the exposure to lead remains a significant risk for the people and a potential public health issue. Especially in the cities such as Buffalo, New York, where most of the people are poor, and the houses and buildings are old. The lead poisoning is associated with racial and economic segregation which makes it a significant issue of environmental justice. This research evidences that the cases of lead poisoning were declined after the actions taken by the government. The public policy of the government was successful, and the lead poisoning was decreased up to a greater extent. It is not easy to assess which local policy had the most effect the prevention from the lead exposure. There were only 139 cases of children with lead poisoning in 2013, while there were 191 cases of children with lead poisoning recorded in 2016 in Buffalo city of New York. Government intervention in this success cannot be denied. Government policies and their steps had taken the city to get rid of this public health issue. According to Yabe et al., (2015) when the level of lead in blood reduced from 45 µg/dL level in children there are lower chances of mortality in the affected children. In children, this disease is very common, and they are more vulnerable to the effects of lead in their bodies. The public policy also involves the role of management such as the recruitment process, budgeting, communication with the public through a different medium.

Role of government

During the whole scene, there was no significant role in the government seen to control this major issue. Only the health department has done significant work and succeeded in this issue. If the government took proper and in time actions, the results would be different, and there would be least losses from this striking issue. The housing and development administration had taken the responsibilities to repair the house and remove the internal paints of the patients. However, there is no evidence that any government regulatory authority had repaired any home. The role of government was not significant, and it was due to the institutional racism. The victims of this issue were mostly the non-white Americans, poor and politically unorganised.

Role of the Health Department

The health department has done its best efforts; however, there was no support from any government institution. They appealed for extra budget to take immediate action for the elimination of this issue. However, the government has rejected and didn't approve funds. They asked the budget bureau for funds approval which was dismissed for many years. The government has shown its discrimination and neglected such a sensitive issue. This issue was greatly ignored by both the health and the housing bureaucracies. There is no doubt that a proper and in time action would reduce the risk of losses. The health department had not only the challenges of funds but also its personnel. There was not sufficient staff to work on an emergency basis. The government had not taken this issue as an emergency. The dedicated and loyal employees left the health department because of the biased and unfair attitude of the institute toward this issue. Though the top management of the health bureau was receiving huge salaries along with other benefits. There were no fundings for the lead poisoning issue, while the elite of health bureau was wasting huge amount for personal uses.

**Public policy and its steps**

Public policy is used to address or order the needs of the citizens through the actions taken by the government according to the constitution. Public policy is the set of laws, mandates, and regulations which are established by the political process. According to In the case of lead poisoning in New York where the government intervention was not up to the mark. The government ignored the case because of the least political gain in terms of votes. The target population was from the slum areas where they didn't have many benefits. The time actions are very important for the government to reduce the impact of any disasters. In the USA the health care policies are issued by the National Health Council. The public policy is implemented through different stakeholders. It needs a higher input of the member organisations, which represent all the dimensions of the health care community. Health care requires a large amount of budget in all the countries around the world. The Public Policy and health care services are the thorough and comprehensible cross-disciplinary record of the goals of health care policy (therapeutic, social, monetary) and of the arrangement instruments that legislature can utilize (money saving advantage examination, passage obstructions, rivalry) so as to guarantee that limited resources are not misused in less productive activities to provide reasonable care to the citizens.

The public policy regarding health issues is hotly debated around the world. There is a policy set by the World health organisation regarding health issues (Vayena et al., 2018). The policy of WHO is for the whole world and It will be of exceptional enthusiasm to scholastics and understudies who need to extend their comprehension of wellbeing financial aspects, social approach and organisation, open strategy and government, political economy and the rationale of foundations. The involvement of health care on large can reduce the hazards of some fatal diseases. Government have huge budgets that can benefits masses. A policy set and carried out by the state for certain cause is going through several stages started from inception and ends with a conclusion. There is an agenda formation, then formulation stage, followed by adoption, implementation, evaluation and termination. We will discuss these steps in details.

Agenda Building

Before the development of a policy, a problem must exist which grab the attention of the government. The government is planning to take certain steps to overcome the risk of that problem. For instance, lead poisoning is an issue which was causing several deaths and other issues in the slum area of New York. The intervention of government and taking righteous actions is based on public policy. Before formulating the policy and implementation, there is a stage for building an agenda. This is done through the information gathering. In the health-related issues, the government identifies the issue by increasing the cases of deaths or other symptoms. Then government officials and the technical experts set together and build a plan. The agenda-building stage consist of information and data collection. The data is properly analysed by different stakeholders. For instance, if the issues are related to the health domain. The stakeholders are the health department, doctors, the local government, non-government organisations which are working in the health sector, and other concerned stakeholders. The health department gets its reviews and concludes certain issues from the experts who are directly or indirectly involved in this policy. For instance, the government agencies, the World Health Organization, local hospitals, local administration, and the federal or state level administration. Community representative could also be the potential stakeholder. In formulating public policy, there are two theories involved such as the top-down theory and the bottom up theories. However, there is a combination of these theories known as hybrid theories. The top-down theories state that the policy will be implemented and decisions will be made from the central government. While the bottom-up theories suggest that the decision will be taken by the local government and will be communicated and approved by the central government (Peters, 2018).

Formulation and Adoption

The policy formulation is to come up with an approach to solve the problem with a concrete and set solution. There are many options with the government, and they have to choose one of these options. For instant in case of lead poisoning government had to call all the stakeholders such as the local government for houses renovation, doctors for treatment plans, and other paramedic staff for the door to door awareness drive. The research organisation and labs to find the solutions for overcoming this issue. Once the policy is formulated, it is brought to the written form and share with all the stakeholders to adopt it strictly. The policy is adopted at all levels from the main office, large hospitals, to the small health care centres. The government at this level analyse budget for it as well. The government allocate budget for all the activities involved in the whole project or activities. The process of allocation funds involves a thorough analysis of the population, the cost of materials, human resource requirements, and other resources. The formulation stage is complex and needs deep insight knowledge and proper analysis of the given information. This information is taken from the authentic sources, or collect data directly through trustworthy employees. The public policy once announced and shared is implemented on the same day. The impact of public policy on the eradication of an issue is significant. In the case of lead poisoning government's role was not up to the mark initially, however, the problem was successfully solved, and the city was free of such cases. It was a success story which could be adopted by other departments or states, and get guidance from the actions taken during this case. It could be related to other cases as well such as the natural calamities, and the sustainability policy of the government. Such as floods, earthquakes, Storme and other disasters. After formulation, the process continues with the adoption of these plans. A policy when made is sent to higher authorities to pass it as a legislation, and the regulations are finalised by these authorities. The authorities could be the supreme court, parliament or the department.

Implementation

 At this stage, the policy is carried out which is mostly accomplished by the institutions which are different than those who formulated and adopted it. For instance, the policy is made by the health department, approved by the government representatives, and adopted by the health department, and the local government. So it would be implemented by the local hospitals and the local municipal committee to provide the services o people according to the case of lead poisoning. Implementation stage is very challenging, and there are a lot of efforts required for the implementation of the public policy. There are a lot of challenges faced by the implementing party from the people, environmental, security, legal and so on. The implementation stage requires proper teamwork, competent and highly professional staff are required, and the role of leadership is important. There may be certain obstacles which could be hard to eliminate. However, that could be reduced up to a great extent. Proper implementation is the key to the success of the project. It is the main stage of the public policy, and all the work is done for the success of this stage. In many countries, there are some health issues so that they can get benefits and guidance for the case of the actions taken by all the stakeholders in the lead poisoning. The success of implementation requires the leadership and the commitment of staff who are directly involved in the process. The proper utilisation of the budget also influences the outcomes of public policy. Moreover, the implementation stage should be properly analyse, and the bottlenecks can be eliminated efficiently. The implementing partners can also the third party to whom the project is outsourced. The third party role may be very effective because of their expertise in the same field because of its repetition of work with different donors. However according to the agency problems the third party may prefer their interest and does not provide an attempt with their full capacity.

Evaluation and Termination

Evaluation of the public policy refers to find how well the policy is implemented, and how much it benefited the public and the affected population. It is not an easy task to evaluate every action because of limited staff and more work burden. The process of evaluation is usually based on the cost-benefit analysis which is used to understand the results of the project and how much it was successful. These projects are usually based on the cost and benefit analysis, how much fund is utilised and how many people were benefited with the utilisation of the funds (Birkland, 2017). The public policies are strictly monitored, and the reports are analysed from time to time. This analysis helps the higher authorities to take further actions and take additional steps to improve the outcomes. Termination of the project usually occurs when the required results are achieved. However, most of these policies once established not terminated easily. The termination of policy usually occurs when the policy becomes obsolete, and which is no more applicable. So the government tries to change it and come up with a new policy to replace the first policy. When the policy didn't work clearly, or it loses the support from the stakeholders and other elected officials who formulated and passed it initially. For instance, some policies have more cost than its benefits, so these policies are terminated. The government in the USA initially decided to reduce the speed limit on the roads to 55 miles per hours. This decision affected the fuel consumptions of huge vehicles like trucks. Then the government changed the policy again, to reduce the losses of the trucks.

**Identification of causal factors**

Symptoms in children

There are some symptoms and signs of lead poisoning in children which includes: The late development of their bodies, the metabolism and growth is slow downed by the accumulation of lead in their blood. The learning abilities of the children are steady, and their mental level is weaker than other children. The children with excessive lead in their bodies are feeling less appetite which leads them to the weight loss. Most of the children with lead poisoning are habitual of eating things like paints, chips, and soil etc. (Hanna-Attisha et al., 2016). These things increase the lead amount in the blood and the body of a child. These children become weaker and feeling fatigue and abdominal pain. In certain severe cases, they can lose their sense of hearing. Mostly they face digestive disorders because of the intakes of such toxic materials and other issues. These digestive problems include vomiting, abdominal pain, and constipation. Some severe symptoms are seizures and irritability problems. In newborn babies, the symptoms of lead poisoning are the premature birth, lower weight at the birth, and having steady growth.

Symptoms in Adults

 The adults are exposed to the lead poison because of the exposure to the lead element in the workplaces. There are some symptoms which indicate the existence of lead poisoning in adults as well. It is hazardous for adults as well, and the possible symptoms in adults include: High blood pressure is caused by the excess of lead in the blood cells. Moreover, it causes joint pain and muscular pains in the body. It also causes difficulties in memory and concentration; a person can not focus on things and does not remember the daily tasks. Headache, abdominal pain, mood disorders and reduced sperm count is examined as the symptoms of the lead poison in adults (Pulzl & Treib, 2017).

**Root Causes of the problem**

Here we will discuss the root causes of the problem in the case study of lead poisoning. The root causes of lead poisoning were not so certain, according to the health department the lead poisoning was caused by the intake of lead among the children. The government focused on renovating the walls of the houses and removing the paints from the houses where the cases were recorded. The municipal committee's representatives visited their homes and removed the paints which were contaminated with the lead element. It was a very effective method to identify and remove the cause of the problem. They also provided proper treatment to the child and educated the patients and their parents regarding the prevention and precautions. However, initially the practical implementation was not efficient, and there was some mismanagement in the process. The government also faced many obstacles to overcome these issues, and it is not easy to cope with such serious issues and eliminate them successfully. The reason for this case was not only eating the paint and chips by the children because it was found in some infants who cannot eat these things. According to different researches, it could also be found in water and air. For instance, the use of lead materials in the pipes can contaminate the water that is used for drinking purpose. These are occurred by the poor sanitation and plumbing sources. Moreover, air pollution is also the source of spreading this disease, that can raise the chances of lead poisoning. In certain materials that we are using have excessive lead also causes poisoning in both children and adults.

**Recommendations**

According to the case of lead poisoning, the slum areas in New York had excessive cases of lead poisoning in children. The number of cases was increasing rapidly, and there was no proper solution to overcome these cases. Initially, the government decided to speed up their services and declare this issue as an emergency. The government provided the services of removing the lead made paints of the walls and renovated the house of the patients. It was effective, and at the end, the case became a success story. However, it was not that much simple and easy. The role of government while deciding to approach the people and renovate their homes was not fully implemented by the government workers. The local government did not take proper interest due to the conflict of interest. The conflict of interest is one of the major issues that affect the performance and implementations of public policies (Dunn, 2015). Though it was a successful case and became a benchmark for others to follow its policy. However, there were certain limitations from the government. As it was in the notice of the government that the cases of lead poisoning are increasing with great pace, but still it didn't take proper and in time actions. The most tragic point is that the government did not allocate extra budget to overcome this problem initially. If the decision of funding and implementing emergency to rescue the children were made at an early stage, it wouldn't be that much intensive, and there would be fewer casualty and losses. This case is successfully closed, and the problem has been eradicated from its roots. However, I will suggest few things to the government, and other stakeholders of the case, and to the people residing in different parts of the world. Some of the recommendations are given to the audience throughout the world who are facing such types of medical issues, and the government is formulating the public policies, which are discussed below:

* The government has to take prompt action regardless of their interest and provide services on an emergency basis.
* The government has to allocate extra funding to the health department to enable them for a quick response. The funds should cover the costs of all the activities. Such as hiring extra staff for this issue, allocation of additional resources, and provide financial support to the most vulnerable patients and their families.
* The government should spread awareness messages through a different medium, and personal visits of the staff to the target population. The awareness message should include all the details such as the symptoms, precautions, treatment, preventions, and diet etc.

References

Birkland, T. A. (2017). Agenda setting in public policy. In Handbook of public policy analysis (pp. 89-104). Routledge.

Dunn, W. N. (2015). Public policy analysis. Routledge.

Hanna-Attisha, M., LaChance, J., Sadler, R. C., & Champney Schnepp, A. (2016). Elevated blood lead levels in children associated with the Flint drinking water crisis: a spatial analysis of risk and public health response. American journal of public health, 106(2), 283-290.

Kianoush, S., Sadeghi, M., & Balali-Mood, M. (2015). Recent Advances in the Clinical Management of Lead Poisoning. Acta Medica Iranica, 327-336.

Magavern, S. (2018). Policies to Reduce Lead Exposure: Lessons from Buffalo and Rochester. International journal of environmental research and public health, 15(10), 2197.45 µg/dL

Peters, B. G. (2018). American public policy: Promise and performance. Cq Press.

Pülzl, H., & Treib, O. (2017). Implementing public policy. In Handbook of public policy analysis (pp. 115-134). Routledge.

Tirima, S., Bartrem, C., von Lindern, I., von Braun, M., Lind, D., Anka, S. M., & Abdullahi, A. (2018). Food contamination as a pathway for lead exposure in children during the 2010–2013 lead poisoning epidemic in Zamfara, Nigeria. Journal of Environmental Sciences, 67, 260-272.

Tirima, S., Bartrem, C., von Lindern, I., von Braun, M., Lind, D., Anka, S. M., & Abdullahi, A. (2016). Environmental remediation to address childhood lead poisoning epidemic due to artisanal gold mining in Zamfara, Nigeria. Environmental health perspectives, 124(9), 1471-1478.

Vayena, E., Dzenowagis, J., Brownstein, J. S., & Sheikh, A. (2018). Policy implications of big data in the health sector. *Bulletin of the World Health Organization*, *96*(1), 66-68.