# Use of bisphenol a(bpa) in the usa essay

Health & Medicine, Body

# Introduction

Plastics have been in existence since the early 1900s and they have gone through several transformations to harden and suit them to diverse applications. In the USA, Bisphenol A (BPA) became a key component of making hard plastics in the 1940s and 1950s. The USA currently produces approximately 2 billion tons of BPA per year. The substance can be found in the lining of cans and polycarbonates used in packaging canned foods, in water and infant bottles among other food and beverage holding containers. BPA gets into the body through diet, when one consumes food and drinks into which BPA has leached from the internal walls of the container. The continued use of BPA in the USA and around the world could be hampered after studies in Canada revealed that BPA is toxic to both the human and environmental health. This paper presents an analysis of why the use of BPA in the US should be more tightly regulated.

Numerous studies have discredited human exposure to BPA by associating it with several health effects. According to Shelby, (2010) BPA is an endocrine disruptor which has the capability to mimic estrogen. It can mimic the function and structure of the estradiol hormone and has the ability to bind to and activate estrogen receptors (Shelby, 2010). Studies have shown that prenatal exposure to BPA can cause physiological and neurological difficulties (Musson, 2008). Indeed, regulatory bodies have determined the acceptable exposure levels to BPA among infants by for instance banning the use of PBA in the manufacture of plastic infant drinking bottles.

Exposure to BPA has an effect on the reproduction hormones such as estrogen and this by extension has an effect on the reproduction systems of

the exposed animals and humans (Shelby, 2010). These reproductive health effects include increasing prevalence of breast and prostate cancers, early maturation in females and decline in sperm count (Shelby, 2010). Some studies have also associated exposure to BPA to abnormal urethra/penile developments in males (Musson, 2008).

In other cases, exposure to BPA has been blamed for increasing the prevalence of obesity and diabetes type 2. Though some of these health effects may not be founded, there is cause for alarm. In 2003-2004, the National Health and Nutrition Examination Survey (NHANES III) which was conducted by the CDC (Center for Disease Control and prevention) found significantly high levels of up to 93% in 2500 urine samples collected from random participants aged six years and above (FDA, 2013). This data was considered as being perfectly representative of exposure levels to BPA the United States population.

According to the US Food and Drugs Administration (FDA), exposure to low levels of BPA is acceptable and in low quantities the substance does not cause any harm to the human body (FDA, 2013). The FDA and the National Toxicology Program are however concerned that prenatal exposure to BPA has adverse effects on the behavior, the brain and the development of prostate glands in fetuses (FDA, 2013). In other words there are fears on the exposure infants and children to BPA as compared to the fears that exist when people past infancy are exposed to the substance. In an era where many parents are resorting to use of infant formulas, and feeding babies through bottles, there is increased danger of exposing infants to high levels

of BPA which could increase the prevalence of the above named health effects.

## Conclusion

The use of plastics in the world is widespread. Plastics hardened using BPA are commonly used as water bottles and food packaging containers among other applications. Recent studies have blamed for BPA exposure to cancers, decline in sperm count, early maturation in females among other health effects. The FDA however, states that at low levels, BPA does not have adverse effects on the human body but prenatal exposure could lead to adverse effects on the brain, prostate glands and also affect the neurological developments of children. As such the use of BPA in the US should be more tightly regulated. There is increased use of bottles to feed children and this increases their exposure to BPA and the related health effects. As such, it is imperative that the use of BPA be more tightly regulated in the US and beyond.

## References

Food and Drugs Administration-FDA (2013). Bisphenol A (BPA): Use in Food Contact Application. U S Food and Drug Administration Home Page. Retrieved May 23, 2013, from http://www. fda. gov/newsevents/publichealthfocus/ucm064437. html

Musson, S. (2008, August 18). National Geographic Magazine - NGM. com. National Geographic Magazine. Retrieved May 23, 2013, from http://ngm. nationalgeographic. com/geopedia/Bisphenol_A

Shelby, M. (2010) Potential Human Reproductive and Development Effects of Bisphenol DIANE Publishing.