group. However, one study has reported the toxic effect of aspartame in *Drosophila melanogaster* and *Danio rerio*. In this study, the same concentration was used for both invertebrate as well as avertebrate model, and the concentrations were exceptionally high (highest tested dose 500 mg/ml)(Reshman et al. 2015). The group has reported marked phenotypic changes and DNA damage in both flies and fishes at the same doses(Reshman et al. 2015). The genotoxicity studies carried out on aspartame *in vitro* as well as *in vivo* have been extensively reviewed by Magnuson et al.(2007). There are no reports of its genotoxicity *in vitro* as well as *in vivo* models. It did not induce micronucleus and chromatid exchanges in cultured human peripheral blood lymphocytes(Rencuzogullari et al. 2004). There was also no evidence of DNA damaging activity by aspartame in primary rat hepatocyte culture at 5 and10 mM of aspartame(Jeffrey and Williams 2000). The *in vivo* cytogenetic assay performed on rats for aspartame at a dose of 500, 1000, 2000, and 4000 mg/kg/body weight/ day for 5 days did not induce chromosomal aberrations in bone marrow cells from all groups(Magnusan et al. 2007). The contradictory reports on the aspartame are mainly due to the dose differences, the route of administration and the duration of exposure. Here in our present study, we have studied various doses of aspartame on larvae for 24 hours of duration and also the larvae were allowed to pupate on the same doses of exposure and the emergence of the flies were also noted. It is concluded from our study that aspartame does not exhibit any toxic effects at the doses selected in our study, and these doses are higher than the plasma concentrations in human even after a high dose intake (Stegink et al. 1983; Finkelstein et al. 1983). Aspartame is completely digested by the gastrointestinal tract, into amino acids and methanol, which is subsequently metabolised into carbon dioxide and water (Magnuson et al. 2007).

Conclusions

The contradictory reports on the aspartame are mainly due to the dose difference, the route of administration and the duration of exposure. Here in our present study, we have studied various doses of aspartame on larvae for 24 hrs of duration and also the larvae were allowed to pupate on the same doses of exposure and the emergence of the flies were also noted. It is concluded from our study that aspartame does not exhibit any toxic effects at the doses selected in our study, and these doses are still higher than the plasma concentrations in human even after a high dose intake (Stegink et al. 1983). Aspartame is completely digested by the gastrointestinal tract, into amino acids and methanol, which is subsequently metabolised into carbon dioxide and water (Oyama et al. 2002).

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