In the literature, the hydraulic erosion of concrete is investigated with the parameters of impinging velocity and exposure time, while the incidence angle and the standoff distance between nozzle exit and the specimen have not been considered. ==The angle of attack is of fundamental importance in predicting the hydraulic erosion of a concrete construction in an engineering application.== The standoff distance determines the impinging velocity associated with the hydraulic pressure. These aspects have not been considered in other reports in the literature. A model is constructed in this study to correlate the hydraulic pressure, the standoff distance, and the resulting impinging velocity.