INTRODUCTION

Bisphenol A (BPA), is a precusor to Bis-GMA and Bis-DMA, resin monomers in dental sealant material and might be a degradation product through esterases in saliva.[1] Researchers have identified an estrogenic effect in vitro with BPA.[2] Environmental estrogens or xenoestrogens are a group of chemicals that mimic estrogenic actions. Dental sealants are used to fill pits and fissures of tooth surfaces and have proved to be highly effective in the prevention of dental caries.[3,4] Recent research findings have demonstrated that BPA is present in the oral cavity following placement of the dental sealant, and can be found in saliva samples in varying amounts from one to three hours after placement of the dental sealant.[1,5] The presence of BPA is significant because it has been shown to have proliferative effects on cells with high levels of estrogen receptors and thereby, associated with an increased risk for breast cancer and prostate cancer.[6,7,8] This study will examine the release of BPA into the oral cavity and systemically in blood through the use of a high-pressure liquid chromatography test to analyze saliva and serum samples in adults before and after the placement of dental sealants. The study also will examine the differences in BPA presence in saliva and serum samples by comparing low-dose (1-2) and high-dose (3-4) dental sealants. Samples will be collected at varying times periods of one hour, three hours, one day, three days, and five days following dental sealant placement.

PROBLEM STATEMENT

Estrogens are steroid hormones that are responsible for the development of genitalia, ovaries, breasts, and other secondary sex characteristics.[9] Xenoestrogens are estrogen-mimics that have disruptive effects on cells with high levels of estrogen receptors .[2] These findings have significant implications because the xenoestrogen, BPA, has been associated with an increased risk for breast cancer and prostate cancer in laboratory studies.[7,8] While little information