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Preliminary study in *in vivo* CT dosimetry using optically stimulated luminescence detector (OSLD)

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Optically stimulated luminescence nanoDot dosimeters (OSLD) have been used to measure single point dose distribution along the superior-inferior position at the surface (skin) and in depths, analogous to organ depths. A customized acrylic phantom of 46 cm length, 20 cm diameter was fabricated, and used for the experimental measurements using CT (Computed Tomography) beam. The CT dose profile along the surface and the center of the phantom, as a function of scan field, were measured. The measured dose due to the primary radiation was quantified and compared with the theoretical dose profile using conventional 100 mm pencil CT ionization chamber. The OSLD responses at the center axial and the surface were found to be similar with the dose profile from CT ionization chamber. In this study, the dose at the center axial was found higher than the surface dose up to 28.13%. The dose at the diagonal center was found to be the highest compared to the surface dose up to 61.13%. The result of this work has revalidated the potential use of OSLD in CT Dosimetry as an alternative to TL-Dosimetry.

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Dependency of pain and anxiety level of mammogram on explanation about procedure by technologist

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Introduction: This study was carried out to determine the effect of explanation about mammogram procedure by technologist on levels of anxiety before and after the procedure and pain levels after the procedure to the women who are undergoing mammogram.

Materials & Methods: This study consists of 50 women. The data was collected through the state anxiety scale, verbal rating scale and personal characteristic form. Each step of the procedure was clearly explained to the experimental group while the control group was not. In the mammography unit, anxiety level was measured before and after the procedure and pain level after the procedure in the experimental and control groups.

Results: There was no significant difference in anxiety levels of control before and after the procedure. But in the experimental group significant reduction (40%) in anxiety before and after the procedure was found. Likewise, pain level was reduced by 50% (severe pain) and 10% (moderate pain) respectively in the experimental group compared to control group 0% (mild pain), 40% (moderate pain) and 60% (severe pain).

Discussion: The study determined that explaining clearly each part of the procedure to women who are to undergo a mammogram procedure decreased anxiety levels and pain levels.

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