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Radiation Dose Awareness among Palestinian Physicians Requesting Radiologic Examinations for Pediatric and Possibly Pregnant Patients

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Background: Diagnostic imaging techniques are vital for diagnosing diseases. While the demand for these images is rising globally, it is essential to exercise caution, especially when dealing with pediatric and possibly pregnant patients. Physicians in Palestine often request radiological exams for these specific groups.

Objectives: To assess the Palestinian physicians' awareness and knowledge regarding the various types of medical radiation used in medical diagnostic imaging, the associated doses of exposure, the risk from ionizing radiation, and the suitable techniques for radiation protection. Additionally, it aimed to recognize and assess the educational resources on diagnostic radiation available to physicians in the West Bank and Jerusalem.

Methods: A cross-sectional descriptive study was distributed to general physicians, residents, specialists and internships, who are working in Palestinian hospitals and clinics. The data collection form consisted of 6 sections: socio-demographic section, level of training and source of education, general radiation knowledge, pediatric radiation knowledge, pregnant radiation knowledge, and radiation risk. The data were presented through descriptive analysis and multivariate regression analysis. The assessment of general knowledge and pediatric radiation knowledge utilized a scoring system where correct answers were assigned one mark, while incorrect answers or omissions received



a score of 0. Those scoring ($\leq 50\%$) were deemed to have poor knowledge, (51–69%) were considered fair, and those achieving ($\geq 70\%$) were classified as knowledgeable.

Results: A total of 211 physicians participated in the study. 63.5% of them were males, 43.1% of the study sample were specialists. 51.2% confirmed receiving a specific education in the field of diagnostic radiation. The questionnaire results showed an average score of 3.5 out of 10 for general radiation knowledge, 2.1 out of 12 for pediatric knowledge, and 2.3 out of 5 for radiation risk, which was deemed poor.

Conclusions: The findings of this research align with prior studies indicating a widespread poor level of general knowledge in radiation, pediatric radiation, pregnant radiation and radiation risk among Physicians. This emphasizes the necessity for Palestinian physicians to be updated in the field of radiation doses used in medical imaging and to actively engage in official training courses about radiation doses, risks and protection measures.

Keywords: Radiation dose, Palestinian physicians, Awareness, Pediatric, Pregnant, Radiologic examinations.