

Knowledge about ionising radiation among dentists

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Introduction:

Dental radiography has evolved over the last decade. The evolution began with the introduction of new changes to the operations of dental radiology. Some examples of these changes include new machines, smaller beam sizes, increased filtration, advanced techniques, faster film speeds and large increases in utilization (White, 1992, 118-26). However, concerns do remain about the possible adverse effects of dental radiography on humans for several reasons: firstly, these procedures remain the only common type of diagnostic radiography capable of being performed without intensifying screens, requiring concomitantly higher doses. Secondly, the targets to film distance are short. The third reason is the emitted rays are in near to sensitive organs in the head and neck region. These examinations are among the most common diagnostic radiographic procedures performed today. Based on these examinations, previous studies have concluded an increased risk for salivary gland, thyroid, and brain tumors (UN Scientific Committee on the Effects of Atomic Radiation, 2000, Vol. 1).

Literature Review

According to UNSCEAR 2000 Report (European Union, 1997, 22), dental radiography is one of the most frequent types of radiological procedures. Although the exposure associated with dental radiography is relatively low, any radiological procedure should be justified and optimized in order to keep the radiation risk as low as reasonably achievable (Radiation Protection 136). Dose assessment is recommended to be performed on a regular basis to ensure that patient exposure is always kept within the recommended levels

and to identify possible equipment malfunction or inadequate technique (Alme'n, Mattsson, 1996, 81-89). With comparison to adults, children have been found to be more radiosensitive (International Commission on Radiological Protection, 1991, Publication 60). Therefore, increased attention is recommended in supervising children to minimize the medical radiation exposure to children. All radiological procedures carried out on children must adapt to special radiation protection measures, which aims at recognizing and implementing possible dose reduction strategies in order to eliminate unnecessary and therefore unjustified radiation exposure. It is the responsibility of the healthcare professional to provide firsthand knowledge to the patients undergoing all radiological procedures and processes. The dentist can answer queries of any patient with regard to radiation hazards, which can be reliable provided their knowledge is adequate and up-to-date. The knowledge related to radiation is taught during undergraduate training in medical colleges. However, dentists grossly underestimated the proper risk regarding proper use of medical imaging tools and their associated radiation risks (International Commission on Radiological Protection, 1991, Publication 60). On the other hand, the incorrect information about its safety and effectiveness, is made and promoted by some dentists who are paid and sponsored by the manufacturers of these devices to lecture and give seminars promoting their products. The conflict of interest does add extra concern about the safety of these products.

OBJECTIVES & METHODS

The objectives of the study will be to:

Assesses dentist's knowledge about ionizing radiations and their hazard on the patient.

Identify the level of understanding regarding use of ionizing equipment's among dentist.

METHODS:

The research will assess the ionizing radiations knowledge, risk and awareness among dentists in Australia and Jordan.

The approach to this assessment will use a survey that will be distributed to 300 dentists.

These are some of the questions that I will be asking the dentists:

1-Name (optional)

2- Sex

3- Age

4- Dental school

5- Year graduated

6- Residency

7- Experience

8- Risks associated with ionizing radiation on human tissue

9- Methods of mitigating or preventing ionization radiation during practice

10- Best practices associated with ionizing radiation

HYPOTHESIS

The null hypothesis or my expected outcome of the survey results is that of the better hospitals, or the institution of allied health care that provide ionization radiation during practice to have dentists that understand the risks better than other doctors. The other doctors are understood to be in practice in less stellar institutions of allied healthcare. The alternative hypothesis is that doctors at the stellar institutions as well as doctors at the lesser institutions are unaware of the risks associated with ionizing radiation.

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