

Abstracts

Thus, the DC field very seldom exceed the action value. These attenuations can also be calculated theoretically.
Discussion Our focus was on implantable medical devices. The distance to magnetic objects was found to be critical.

233 USE OF MOBILE PHONES AND LIGHT METRE APPLICATIONS IN THE ASSESSMENT OF THE OCCUPATIONAL LIGHTING ENVIRONMENT

¹So Young Lee*, ¹Dino Pisaniello, ¹Sharyn Gaskin, ²Bruno Piccoli. ¹School of Public Health, University of Adelaide, Adelaide, Australia; ²Institute of Public Health, Catholic University of the Sacred Heart, Rome, Italy

10.1136/oemed-2018-ICOHabstracts.1220

Introduction With a variety of built-in sensors, smartphone users can do many things with only one portable device. Light metre applications measure illuminance and are offered free or at low cost. Like noise metre apps, it is tempting to use such devices for preliminary lighting surveys. However, there are few reports of studies evaluating such use, and none which have explored their potential use for blue light hazards. This paper presents preliminary data on side by side measurements of illuminance and blue light hazard (BLHF) function-weighted illuminance with a range of smartphones, apps and light sources.

Methods Phones with Android and Apple iOS operating systems and two phone apps were compared alongside a professional lux metre on a workstation desk in a mock office, set up in a dark room. A blue light filter (Hoya B440) was used directly over the sensors for the approximate BLHF weighted value.

Results The values of the illuminance and blue-weighted illuminance differed depending on distances and the types of light sources. The illuminance values for Android and Apple devices using the same software were variable suggesting differences in sensor hardware or circuitry. There were major differences between forward and rear facing sensors. The use of the blue light filter significantly reduced illuminance readings, limiting practical application for some devices.

Discussion The rationale for the use of BLHF filters on photometric instrumentation for blue light hazard assessment has been described in the literature. Calibration factors for both naked and filtered sensors need to be established for specific phones and software. The limitations and variances of particular combinations also need to be understood. However, in principle, the use of a smartphone in preliminary lighting surveys may be feasible, and if so, guidance for their use may be developed.

1545 ASSOCIATION BETWEEN ENDOCRINE FUNCTION AND RADIATION EXPOSURE

^{1,2}Xiuting Li*, ²Pengfei Yu, ¹Haiyan Song, ³Xin Liu, ³Liangliang Zhao, ²Jun Wang, ³Dandan Yang, ³Baoli Zhu. ¹Nanjing Prevention and Treatment Centre for Occupational Diseases, Nanjing 210042, China; ²School of Public Health, Nanjing Medical University, Nanjing 211166, China; ³Jiangsu Provincial Centre for Disease Control and Prevention, Nanjing 210028, China

10.1136/oemed-2018-ICOHabstracts.1221

Introduction There has been a growing focus on endocrine dysfunction especially thyroid dysfunction after radiation exposure recent years. Thyroid dysfunction caused by radiation exposure or other reasons may be associated with change in BMI, weight and even induced obesity and metabolic

consequences including diabetes. On the basis of above theories, we decided to observe the likely relationship of endocrine function changes within radiation exposure.

Methods A total of 1784 subjects from physical examination organisation for occupational health were investigated. Subject information was collected with a questionnaire that was carried out through interviews in the forms of face-to-face. We entered all data into a computerised database using the statistical analysis Epidata3.1, all analyses were performed by SAS 9.1.3 software. $p<0.05$ was generally accepted as statistically significant.

Results The abnormal proportion of T3 and T4 in female were higher than them in male ($p<0.05$). Abnormal rate of FT4 increased, accompanying with the growth of age ($p<0.05$). In addition, T3 and FT3 levels may be associated with exposure time of X-ray. On the basis of this survey, abnormal rate of T3(1.4%) and FT3 (1.0%) were higher in group <3 years than that in group ≥ 3 years (0.3% and 0.1%, respectively. $p<0.05$). We compared serum T3, T4, TSH, FT3 and FT4 levels between different degrees referred to exposure time of radiation. Subjects whose duration time longer than 3 years were likely to have higher T4 contents than those who contact less than 3 years ($p<0.05$). Furthermore, normal T4 subjects and abnormal ones were researched separately. In this study, serum T4 was significantly and positively related with BMI in the T4 normal group. Within normal T4 level, T4 was a little weak positive-correlated with BMI.

Conclusion Changes in thyroid function and glucose metabolism may appear after long time exposure to radiation.

127 KNOWLEDGE AND BEHAVIOURS RELATED TO SUN PROTECTION AND USE SUNSCREEN AMONG ACADEMIC STAFF IN MUGLA, TURKEY

¹E Tugba Alatas, ²A Kara Polat, ¹G Dogan, ³M Picakcie*. ¹MD. Department of Dermatology, Faculty of Medicine, Mugla Sitki Kocman University, Mugla, Turkey; ²MD. Department of Dermatology, Istanbul Training and Research Hospital, Istanbul, Turkey; ³MD. Department of Public Health, Faculty of Medicine, Mugla Sitki Kocman University, Mugla, Turkey

10.1136/oemed-2018-ICOHabstracts.1222

Introduction The increase of cutaneous melanoma, skin cancers and other skin diseases incidence is parallel with the increase in sun exposure. The aim of this study was to investigate the knowledge, attitudes and behaviours of academical staff in Mugla in Turkey related to sun protection.

Methods A cross sectional analysis has been conducted in which 1437 academic staff were selected. Of this selected group, 438 participated in the study. Academic staff in Mugla were asked to complete our questionnaire consisting of 26 questions. The questionnaire included questions about the socio-demographic characteristics of the participants, the stories of sunburn and skin cancer, attitudes and behaviours related to sun protection, the habits of using sun protective creams, and the levels of knowledge about sunscreen creams and ultraviolet.

Results The study was composed of 196 (44.7%) women, 242 (55.3%). Mean age was 38.6 ± 0.3 . Using, using sunglasses, avoiding sunlight were among the first three methods of sun protection practiced by the academic staff. 36.1% of the participants stated that they only used sun protection cream while 'only going to sea', 29.5% of the participants stated that they used 'only in summer' and 14.6% of the participants stated that they always used. When academic staff assessed