

OUTDOOR EXPOSURE TO SOLAR ULTRAVIOLET RADIATION AND LEGISLATION IN BRAZIL

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According to the Laboratório de Luz Ultravioleta (LLUV, www.dfq.pucminas.br/PUV/index.html), annual averages of Total Ozone Column over Brazil is typically 265 ± 11 Dobson Units in the tropical-equatorial zones and 283 ± 16 DU in the subtropics. These are among the lowest values on Earth, and the direct consequence is the highest incidences of solar ultraviolet radiation (UVR). Daily erythemal doses in Brazil can be over 7500 J m^{-2} . Erythemal dose rates in cloudless days of winter and summer are typically around 0.147 W m^{-2} (High range, UV-Index = 6) and 0.332 W m^{-2} (Extreme range, UVI = 13), respectively. However, clouds have one of the strongest influences on the incidence of UVR, and events of radiation enhancement fed by clouds have been reported with incidences of 0.486 W m^{-2} (Extreme range, UVI = 19). The diffuse component of the erythemal radiation corresponds on average to at least 60% of the global amount, and diffuse daily doses of 5053 J m^{-2} and diffuse dose rates of 0.312 W m^{-2} have been reported. Unfortunately, despite the evident high incidence of UVR, Brazilians still behave usually in a way leading to overexposure to the Sun. In fact, an estimation of the annual personal UVR ambient dose among youth Brazilians makes a value of 5.3%.

Skin cancer in Brazil has the highest prevalence with annual rates of 31.6% (Non-Melanoma) and 1.0% (Melanoma). Governmental and non-governmental initiatives have been taken toward the increment of public's awareness to photoprotection attitudes. However, such initiatives have not yet succeeded massively.

To ameliorate that scenario, projects of law (PL) have been discussed and laws have been put into force by the government. Resolution #56 by the Agência Nacional de Vigilância Sanitária (ANVISA) has banned tanning devices in Brazil since 2009. In addition, strict legislation has been proposed and discussed federally regarding both outdoor workers and the public. PL 3730/2004 proposes that the Sistema Único de Saúde (SUS) distribute sunscreen among the public, while PL 4027/2012 proposes that employers provide outdoor workers with sunscreen during professional outdoor activities. Similar laws have already passed in some municipalities.