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Solar Ultraviolet Radiation

Global burden of disease from solar ultraviolet radiation

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Preface

Human exposure to solar ultraviolet radiation has important public health implications. Evidence of harm associated with overexposure to UV has been demonstrated in many studies. Skin cancer and malignant melanoma are among the most severe health effects, but a series of other health effects have been identified. The current report provides a quantification of the global disease burden associated with UV. The information presented forms a knowledge base for the prevention of adverse effects of UV exposure that is achievable with known and accessible interventions. UV prevention focuses on protecting the skin and other organs from UV radiation. On the other hand, a moderate degree of UV exposure is necessary for the production of Vitamin D which is essential for bone health. Additionally, evidence emerges that low Vitamin D levels are likely to be associated with other chronic diseases. Thus, public health policy on ultraviolet radiation needs to aim at preventing the disease burden associated both with excessive and with insufficient UV exposure.

This volume is part of a series on global estimates of disease burden caused by environmental risks, and guides for estimating the disease burden from specific risks at country or local level. This Environmental Burden of Disease (EBD) series responds to the need to quantify environmental health risks as input to rational policy making. Quantification of disease will provide information on the health gains that could be achieved by targeted action on protecting against specific environmental risks to health. An introductory volume (No. 1 of the series) provides further details on methods used for such quantification.

The methods for environmental burden of disease are part of a larger initiative - WHO has recently analysed 26 risk factors worldwide in the World Health Report (WHO, 2002). In 2006, a global estimate of the health impacts from environmental risks has shown that the 24% of global disease is due to the "modifiable" part of the environment¹.

A separate guide is being prepared to assist in the estimation of health impacts from UV radiation at country level.

¹ Preventing disease through healthy environments - towards an estimate of the global burden of disease. WHO, Geneva, 2006.

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Abbreviations

BCC	Basal cell carcinoma
CMM	Cutaneous malignant melanoma
DALY	Disability-adjusted life year
GBD	Global burden of disease
NMSC	Non-melanoma skin cancer
PAF	Population attributable fraction
RHL	Reactivation of herpes labialis
SCC	Squamous cell carcinoma
SCCC	Squamous cell carcinomas of the cornea and the conjunctiva
UVR	Ultraviolet radiation

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