

## More diseases as ozone diminishes

As the ozone layer thins, medical experts have warned people to be aware of sun exposure to avoid health problems such as skin cancer and cataracts. During the last two decades, the stratosphere has thinned by 3 percent, causing the sun's exposure to the earth to increase by 12 percent, adding to the prevalence of skin cancer and cataracts. There are three types of skin cancer: basal cell carcinoma (BCC), which is the most common and curable type, squamous cell carcinoma (SCC), which is also common but can undergo a small metastasis in small percentage of patients, and melanoma maligna, the most rare and dangerous type.

The world has seen an increasing number of skin cancer cases, with the US experiencing a 69 percent increase between 1950 and 2001. Research conducted in 2004 by the University of Glasgow showed that Europe saw 99 cases of BCC per 100,000 people, 15 cases of SCC per 100,000 and 10 cases of melanoma per 100,000. The World Cancer Day campaign set 2011 as the year to raise awareness of skin cancer.

In Indonesia, the prevalence of skin cancer is still relatively low compared to other types of cancer, such as cervical cancer, lung cancer or breast cancer. According to the 2008 Globocan data, the estimation of skin cancer cases was still under 5,000. However, instances of skin cancer have been on the increase. Bali-based dermatologist Laksmi Duarsa said that skin cancer cases ranked third in 13 hospitals in 1984. She also found skin cancer cases were in the top three most common health problems in Yogyakarta in 1995. She said that in Sanglah Hospital, the number of skin cancer cases had been increasing since 2007, with the percentage of melanoma cases having increased from 2 percent in 2007 to 4 percent in 2008.

"To protect the skin from cancer risks, people should avoid doing activity under direct sunlight between 10 a.m. and 4 p.m.," she said.

"If people must do activity outdoors during this time period, they should take protective measures, such as using umbrellas, wearing hats or using sun screen cream. People who are at risk of skin cancer are those who work outdoors, like fishermen and farmers."

Besides skin cancer, another disease caused by the thinning ozone layer is cataracts, a clouding of the lens of the eye. An eye survey conducted in Lombok, West Nusa Tenggara showed that 70 percent of Indonesia has the highest prevalence rate of blindness among other Southeast Asia countries, with a 1.5 percent prevalence rate.

Nila Djuwita Moeloek, an ophthalmologist from the University of Indonesia and special envoy on Millenium Development Goals to President Susilo Bambang Yudhoyono, said that if the government could decrease the number of cataract cases or carry out cataract operations, it would reduce the burden of cost to between US\$5 and \$32.

"If a person becomes visually impaired due to a cataract, he or she cannot work and will need an escort, which has financial implications. If we operate on people with cataracts, not only will these people remain independent, but they will also become productive," she said.

According to Nila, 410 patients had received radical surgery between 1980 and June 2010. She estimated that there was between 13 and 14 patients receiving radical surgery per year.

Seen as a global threat, countries have committed to reducing the use of substances that potentially deplete the ozone layer, such as chlorofluorocarbons (CFCs) and HCFC (hydrochlorofluorocarbons).

As part of the Montreal Protocol, adopted in 1987, signatories committed to quickening the eradication of HCFCs due to the propensity of these substances to deplete the ozone layer and foster global warming. HCFCs, which are commonly used substances, are 2,000 times stronger than carbon dioxide (CO<sub>2</sub>) in terms of increasing global warming. A protocol signatory, Indonesia is planning to gradually halt the consumption of HCFCs by reducing the consumption of products containing these substances by 10 percent by 2015. In December 2007, Indonesia claimed success in halting the consumption of ozone depleting substances such as CFC, methyl bromide, halon, carbon tetrachloride (CTC) and methyl chloroform (also known as trichloroethane/TCA).