

NURSING IN AN ERA OF CLIMATE CHANGE

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Abstract

Climate Change brings many personal and professional challenges for Nursing Staff and Carers as it will exacerbate problems of human health, particularly, in the elderly and those with chronic disease. Furthermore it will see increased numbers of natural disasters such as floods, fires, famines and hurricanes and a spread of disease into new latitudes.

Nurses globally have also rallied politically to stress the need for a healthy environment to avoid the health and extinction consequences of climate change.

A position statement was announced by Annette Kennedy, ICN President at the International Council of Nurses (ICN) Regional Conference in Abu Dhabi. "As the global voice of nursing, ICN's position is that nurses have a shared responsibility to sustain and protect the natural environment from depletion, pollution, degradation and destruction."

This paper looks at some of the issues, some of the studies and some of the responses

Key words: climate change, nurses

Introduction

Most countries of the world have accepted the reality of human induced climate change and rising global temperatures. The rates of response and remediation of the factors that have changed our climate have however had a varied response and commitment.

While it will cause global havoc, cause extinctions and put all populations under severe stress there are certain groups of people who will be more affected than others by climate change.

These include those living in low lying islands e.g. island nations in the South Pacific and those in low lying delta areas e.g. Bangladesh and parts of India.

There will also be effects on those who will need to respond to natural disasters caused by climate change, such people as fire-fighters and other disaster relief personnel and of course the healthcare workers.

The most vulnerable groups as far as climate change and health is concerned are the elderly and those living with chronic and debilitating disease. The socio-economic status of people will also have an impact on how they can prepare themselves for climate change. There will also be the spread of disease into new regions and front line health care workers will need to be alert for factors such as increased heat stress and consequently dehydration and new disease outbreaks, infections and infestations.

Triage services will be increasingly required after fires, floods and hurricanes.

Health consequences of Climate change

Elderly people are known to be more vulnerable than the general population to a range of weather-related hazards such as heat waves, icy conditions and cold periods while at the same time there are large increases in the proportion of elderly in the population meaning more vigilance is required and a smaller proportion of the population will need to cater for an increasingly larger proportion of the population. Hospitals will come under increasing pressure both in terms of financial aspects and in terms of workforce/ nursing numbers.

For the elderly suffering from dementia and other disabilities additional monitoring services will be required.

Europe

An average of 2,000–3,000 deaths occur in Finland each year in the cold season with the majority among persons aged 65 and older with about 50,000 injuries recorded annually in Finland during the winter period due to slippery pavement conditions (1). In Russia an estimated 55,000 deaths were recorded in the 2010 heat wave. More recently the Arctic fires in Siberia affected air quality in

the endemic regions exacerbating lung health conditions such as COPD and emphysema. In the 2003 heatwave that continued over most of the European summer, more than 70,000 people died. France was among the worst-affected countries, with 15,000 deaths in August alone. In the UK, the summer saw more than 2,000 heat-related fatalities.

The coping capacity of the elderly to respond to extreme weather can also be limited due to impaired mobility, isolation, mental health conditions and poor access to health and welfare services, as well as reduced economic circumstances preventing purchase or installation of air conditioners, respite holidays and relocation to cooler regions. Also, failure of basic health and welfare monitoring was a contributing factor in the large numbers of excess deaths (around 70,000) reported during the major heat wave event in the 2003 in western and central Europe in 2003.

The factors that affect mortality during these episodes include higher (or lower) temperatures and number of consecutive high (or low) temperature days without respite; the increasing number of elderly per head of population; economic factors – both personal and governmental, availability of pensions and other support services for the elderly, number of elderly living alone, number of health care personnel available.

USA

On average, 240 heat-related deaths occur annually in the United States. Exposure to extreme and prolonged heat is associated with heat cramps, heat syncope (fainting), heat exhaustion, and heatstroke (2, 3).

Under mild heat stress, acclimatization can increase the body's tolerance to heat stress. However, under extreme or chronic heat stress, the body loses this ability to respond and this results in increased hospital visits and increased number of deaths. Dehydration and volume depletion also limit the cardiovascular system. Consequently, patients with underlying diseases or the elderly may not have the physiological capability to adequately respond to heat exposure. (2,3)

Older adults are also more likely to have a chronic health condition such as congestive heart failure, and diabetes which are exacerbated by heat or cold related stress. As the US population aged 65 and over is set to nearly double by the year 2050 the number of people living with chronic health related conditions will greatly increase. (2,3)

Higher temperatures have also been linked to increased hospital admissions for older people with heart and lung conditions. Older adults with limited incomes may not use air conditioners or fans due to demand on electricity, this increasing operation costs.

Warming temperatures decrease air quality while more frequent wildfires raise the amount of pollution, dust, and smoke in the air, causing increasing hospital presentations. Poor air quality worsens respiratory conditions common in older adults such as asthma, emphysema and (COPD). Air pollution can also increase the risk of heart attack in older adults, especially those who are diabetic or obese.

Depending on where they live, some older adults can be more vulnerable to climate change-related health effects than others. For older adults residing in cities, factors such as the urban heat island effect may also present risks (2,3).

Australia

In Australia increased number of days over 35 degrees contributes to heat stress in vulnerable groups such as the elderly and remote Indigenous communities. Many areas in Australia may see daytime temperatures over 40 increasing to 45 degrees in some areas, There is also the possible migration further south of diseases currently confined to tropical areas, including dengue fever and the threat of malaria moving into northern latitudes of Australia. Climate change through prolonged droughts also poses significant threats to food and water security.

The accumulated health effects from these factors combined puts pressure on already stretched health and aged care facilities and the associated workforce. These sectors must be prepared and equipped to manage the health impacts of climate change.

Human health and wellbeing in all age groups is intrinsically connected to the quality of the natural environment. Air, sea and land pollution, famines, droughts, floods, tropical storms affect all people irrespective of age. Climate change and acidification of the oceans, will put pressure on global food resources, increase natural disasters, cause extinctions among plants and animal species including our food crops, and cause less favourable living conditions for all. The ultimate concern, especially with government inaction or political unwillingness to address the big picture items will put a strain on all members of society,

Nurses, midwives and assistants in nursing will be affected both in their work and personal lives by the effects of climate change. As the largest component of the health care workforce, they are at the forefront of providing care to communities and individuals. Treatment of climate change-related health conditions add an economic burden to the healthcare system. (4)

The Australian Nursing and Midwifery Federation have put out the following statement (4):

1. Urgent action needs to be taken by government and all sectors of the community to: limit potential temperature increases by reducing and limiting the release of carbon dioxide emissions from fossil fuels into the atmosphere; implement non-fossil fuel sources of energy; and prepare the health sector to deal with existing and future health effects of climate change.
2. As members of the community, nurses, midwives and assistants in nursing, need to participate in the broader climate change debate, utilising their networks to communicate with politicians, the media and the community on the importance of reducing carbon emissions.
3. Nurses, midwives and assistants in nursing have an important role to play within health and aged care facilities to identify opportunities, shape policy and bring about lower emissions from service provision.
4. Research efforts must be focussed on clarifying and quantifying the negative health effects associated with climate change in order for the health sector to be able to understand and best respond to those health conditions as they arise.
5. The existing and future nursing and midwifery workforce should be educated to understand and respond to health conditions related to climate change.

Employers should:

1. acknowledge and support nurses, midwives and assistants in nursing involved in environment and sustainability groups in their workplaces to bring about efficient and sustainable practices;
2. support nurses, midwives and assistants in nursing to implement sound and viable climate change initiatives;
3. showcase the efforts and successes of nurses, midwives and assistants in nursing to bring about environmentally sustainable workplace practices;
4. ensure there is a management team tasked specifically with implementing sustainable environmental practices and that nurses, midwives and assistants in nursing can fully participate;
5. ensure that health and aged care facility service delivery accreditation standards specify sustainable environmental standards for procurement, energy efficiency, water use and waste management;
6. ensure that sustainable planning, design and construction of new health care facilities and retrofitting of existing facilities is standard practice;
7. ensure that environmental sustainability drives procurement criteria;

8. endorse the ten sustainability goals outlined in the Global Green and Health Hospitals Agenda. These goals include:

Leadership; Chemicals; Waste; Energy; Water; Transportation; Food; Pharmaceuticals; Buildings; and Purchasing (5)

9. identify, facilitate, resource and implement environmentally sustainable practices that support the ten sustainability goals outlined in the Global Green and Healthy Hospitals Agenda (5)

Nurses are also acting as Advocates as well as front line carers. The International Council of Nurses (ICN) has released a new position statement on Nurses, climate change and health, which calls for governments, health system leaders, national nursing associations and nurse leaders to take immediate action to mitigate climate change and to support people and communities around the world to adapt to its impacts. (6)

The new position statement was announced by Annette Kennedy, ICN President at the ICN Regional Conference in Abu Dhabi.

ICN:

- Urges countries, which have not yet done so, to ratify the Paris Agreement without further delay.
- Strongly believes that nurses have a shared responsibility to sustain and protect the natural environment from depletion, pollution, degradation and destruction.
- Recognises that building climate change resilience must include efforts to improve and sustain the social and environmental determinants of health through sustainable development.
- Recognises the opportunity to take advantage of the massive potential to implement mitigation and adaptation policies that also have co-benefits to health.
- Calls on governments to scale-up financing for climate resilient health systems including developing models for healthcare workers to engage in sustainable practices. Donor countries should ensure that low- and middle-income countries are supported to strengthen their health systems and to reduce the environmental impact of healthcare.
- Encourages governments to reduce the risks they are expected to face from climate change by making choices in how they advance technology and industry and make investments in infrastructure and public policies that have less environmental impact.
- Calls on governments to invest in climate change and public health research, monitoring, and surveillance to improve understanding of the health co-benefits of climate mitigation and the health implications of adaptation measures at the community and national levels.

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Additional reading:

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