Leading Environmental Health Awareness to Transform Nursing Practice

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"The significant problems we have cannot be solved at the same level of thinking with which we created them."

Albert Einstein
LEARNING OBJECTIVES

I. **Explain** environmental health implications for nursing.

II. **Identify** environmental hazards and current issues affecting your own state or country

III. **Propose, Support & Address** EH initiatives
Kim (1998) Reflections on “Structuring the nursing knowledge system: A typology of four domains”
Focus of nursing: alter the environment in order to affect change in patient/population health

Environmental factors:
- air
- water
- food supplies
- drainage
- cleanliness of patient & environment
- sunlight
- temperature
- noise

Circa 1860
A responsibility to participate in the efforts to safeguard man’s environment, to conserve the world’s resources, to study how their use affects man, and how adverse effects can be avoided.

recommended environmental health competencies for nurses
Egocentric
Individual

Homocentric
population

Ecocentric
humankind with environment

Kleffel (1996) – *Environmental paradigms: Moving towards an ecocentric perspective*
ANA's Principles of Environmental Health for Nursing Practice with Implementation Strategies

2007
ANA’s Principals of Environmental Health (2007)

- Disease Prevention
- Social Justice

Provide nursing care in an environmentally healthy and safe manner for all!
Specific Aims:

1. Educate Nevada’s nurses on ANA’s Principals of Environmental Health.

2. Inform Nevada’s nurses in an unbiased manner on a variety of issues affecting our state as selected from national-level initiatives.

3. Disseminate knowledge by contributing regularly to a Newsletter (mailing list 38,000).

4. Members represent NNA on state and national events or initiatives that focus on improving the environment for promotion of health.
ENVIRONMENTAL ASSESSMENT

Identify:

1. What are the environmental hazards?
   
   A toxin or event

2. How much?  How often?

3. How long has it occurred?

4. What populations are at risk?

5. Are there any interventions?
GLOBAL ENVIRONMENTAL ISSUES
Sustainable Development Goals

1. No Poverty
2. Zero Hunger
3. Good Health and Well-Being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation and Infrastructure
10. Reduced Inequalities
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life Below Water
15. Life on Land
16. Peace, Justice and Strong Institutions
17. Partnerships for the Goals
GOAL 13 - CLIMATE ACTION
Take urgent action to combat climate change and its impacts
PHENOMENA

- ANA recognizes
- 4 major greenhouse gases created due to human activity

NURSING ACTIONS

- **advocate** for change
  - individual level
  - policy level
- **support local public policies**
  - endorse sustainable energy sources
  - reduce greenhouse gas emissions
- **support initiatives**
  - decrease the contribution to global warming by healthcare industries

- Extreme weather events
- Vector-borne disease patterns
- Safe food and water supplies
Goal 6 - Clean Water & Sanitation

Ensure availability and sustainable management of water and sanitation for all
GOAL 15 - LIFE ON LAND
Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
GOAL 14 - LIFE BELOW WATER
Conserve and sustainably use the oceans, seas and marine resources for sustainable development
EXAMPLES FROM NEVADA!

EARTHQUAKES

WILDFIRE SMOKE EVENTS

CLIMATE CHANGE EFFECTS
EARTHQUAKES

✓ Occurs every year
✓ Drill
✓ Annual Themes
✓ Primary & Secondary levels of Prevention
NURSING & EARTHQUAKES

✓ 31,000 nurses in Nevada
✓ Invite participation
✓ Provide education via Emails & newsletter (with State Seismologist)
✓ Tend to care for patients – than protect themselves
INTERVENTION: VULNERABLE SENIORS

2013

Pre-post intervention Surveys (N = 200)

Increased number of Seniors who felt prepared $p < 0.001$

Developed a family plan $p < 0.05$

Body part to protect $p < 0.001$

Drop, cover & hold on $p < 0.001$
INTERVENTION: VULNERABLE SENIORS

2015 – Senior Survey (N = 53)

66% Felt Prepared, but only 36% had a Family Plan
64% 3-day Emergency Supplies
84% Protect Head & Neck

During an Earthquake:

75% - Stay in home/building
93% - Stay in bed
94% - If outdoors, Stay away from buildings
66% - Stay in wheelchair
55% - Incorrect – doorway
11% - Incorrect – park under an overpass or bridge
CLIMATE CHANGE
Examples of Regional Effects of Climate Change

Northwest
Heavy rainfall and early snowmelt may lead to flooding and overflow of sewage systems, causing an increase in the spread of disease.

Southwest
Increased temperatures and decreased rainfall are likely to put a strain on already-limited water sources, increase wildfires and reduce air quality.

Midwest and Northeast
The Great Plains
Increased temperatures could mean scorching summers and more mild winters—which would significantly impact food production and create new challenges for cities facing extreme heat.

Midwest and Northeast
Major cities like New York City and Chicago could experience extreme temperatures that would mean more heat stress and heatstroke, with the poor and elderly hit especially hard.

Northeast
Rising temperatures could mean a harder time for people with allergies, while diseases carried by insects or animals—such as Lyme disease and West Nile virus—could extend their reach.

Southeast Atlantic and Gulf Coast
Hurricanes and other weather events are expected to last longer and be more intense. That would mean bigger storm surges, more damage to buildings and roads, contaminated food and water, and mold exposure.

Alaska
Loss of permafrost and retreating sea ice is already changing the lives of native people and causing an increase in pest outbreaks.

Source: United States Global Change Research Program, Climate Change Impacts. 2009
NURSING & CLIMATE CHANGE

Education article with Director of Western Regional Climate Center
NURSING & CLIMATE CHANGE

- Interdisciplinary Presentation: public health recommendations
WILDFIRE SMOKE EXPOSURE
NURSING & WILDFIRE SMOKE

- Education & Health Advisement alert to all Nurses – (written with air quality physicist)
- PBS Interview for Northern Nevada

NNA Environmental Health Committee Issues Statement on Wildfire Smoke in Northern Nevada

The NNA Environmental Health Committee today issued a statement on the continued unhealthy air quality in northern Nevada from the Yosemite Rim Fire. The statement contains information on what to do to protect yourself, your family, and your patients. Click here to read the statement. Please help us to distribute this information by forwarding this email to your contacts.

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NURSING & WILDFIRE SMOKE

- Air Quality Monitor on University of Nevada's Campus!
URGENCY?

CALL TO LEADERSHIP!

VISION?
THANK YOU!

Nevada Nurses Association’s Environmental Health Committee

University of Nevada, Reno ORVIS School of Nursing