Anthropology 455

Human Biology of the Pacific

Modernization/ Migration Studies
urban environment
stressors: pollution, general stress, and adiposity
chronic diseases: cancer, hypertension, heart disease, & diabetes mellitus

Major Chronic Diseases in Modernized Populations
Cancer
country & ethnic group differences
e.g., Japanese Americans in Hawaii: stomach cancer; large intestine
Pacific Populations
Hypertension (persistently high arterial blood pressure)
primary or "essential" hypertension
increased risk for stroke, heart disease, blindness, and kidney failure
shortened life expectancy

Major Chronic Diseases in Modernized Populations

Modernization and Hypertension

New Guinea, Samoa, Fiji, Maori, Samoan, Tokelau, Solomon Is.
Major Chronic Diseases in Modernized Populations

Heart Disease

Diabetes Mellitus

insulin

Insulin-dependent diabetes mellitus (IDDM)
Noninsulin-dependent diabetes mellitus (NIDDM)

obesity

side effects: renal disease, blindness, poor wound healing, and gangrene in extremities etc.

Unusually common in Pacific Islanders

Diabetes and Modernization

NIDDM

Pacific Islanders: Nauruans, urban Maori, Hawaiian
Thrifty Genotype

- James V. Neel
- Feast-and-famine

Modernization and Chronic Diseases

- pollution
- general stress

Pituitary-Adrenal Response: hormone ACTH (adrenocorticotropic hormone); adrenal gland: steroid hormones including cortisol

Sympathetic Nervous System Response: norepinephrine/epinephrine (adrenaline and noradrenaline)

- fight-or-flight reaction
Consequences of Biological Responses to General Stress

- erratic heartbeats & increases in pulse rate and blood pressure, decreasing immune system activity, vulnerable to infectious disease.

Migration of Filipinos to Hawaii

- Brown 1981, 1982
- norepinephrine/epinephrine

Samoans, Stress, and Modernization

- Adiposity and chronic disease
- cardiovascular diseases, diabetes, and some forms of cancer, & NIDDM
Adiposity in Samoans