Healing Environment for Elderly with Dementia
HKADA – AUAHK Joint Symposium 20.5 2015
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1. What is healing environment? – bridging Architecture (Design) and Health
2. Creating Healing Environment – Research Based Design for Dementia
3. Environmental Assessment of special care facilities for Elderly with Dementia

Content

1. Introduction: Architecture & Health

Human, spiritual side of health

For the most powerful of healing places is in the brain and in the mind.

- Dr. Esther Sternberg, M.D. (2009)

Nature - Medicine - Health

1. Introduction: Architecture & Health

Human, spiritual side of health

Healing Space

Ancient Greek

Ancient Chinese

Healing Garden.....

911 Memorial NY
Medicine & Environment

Florence Nightingale

1859 Theory of nursing - to manipulate the environment to be therapeutic.

1860 Environmental theory - to minimize suffering & optimize the capacity of a patient to recover

Linked health with 5 environmental factors – sound, warmth, air quality, light, diet.

1. Introduction: Architecture & Health

1865 Sanitation, Ventilation & "Pavilion" Principle (Henry Currey)

Human, spiritual side of health

Nature has a healing effect.

E.O. Wilson "Biophilia" (1984) – human bond/contact with nature could benefit health eg. reduce pain

1. Introduction: Architecture & Health

Views of nature speed healing

Roger Ulrich (1984)

Cholecystectomy Surgery (shorter stay, less pain medication)

Windows with view to natural landscape

1993 Heart Surgery

Images of nature, control blank panel, abstract art (weaker painkillers, less anxiety)

1. Introduction: Architecture & Health

Medicine & Environment

Fredrickson, Levenson (1998) brief view of nature can rapidly reduce stress (3 minutes unspectacular nature - decline in blood pressure)

Tse, Ng, Chung Wong (2005) video of natural scenery increase pain threshold & tolerance

Sound, light, natural daylight, virtual reality

Golden (2005) meta-analysis RCTs concluded light treatment for depression eq to pharmacotherapy

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Medical Doctors, Architects, Neuroscientists

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Medicine & Environment

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1. Introduction: Architecture & Health

**Architecture & Medicine**

1993 Alvar Aalto's Paimio tuberculosis sanatorium

"building as a medical instrument; a contributor to the healing process"

Sun balcony was part of treatment for lung TB

"Design of physical environment is increasingly recognized as an important aid in the care of people with Alzheimer's disease and other dementias.... Design is regarded as therapeutic resource to promote well being and functionality among people with dementia."

- Day, Carreon, Stump 2000

3 treatments for AD: "Balanced combination of approaches."

- John Ziesel 2003

"Environmental Correlates to Behavioral Health Outcomes in Alzheimer's Special Care Units" The Gerontologist, Vol 43(5), 697-711

**Example: Environment & People with Dementia**

Medication
Care & Therapy-OT, SW, Psycho-social

Architects, Designers

Pharmacological Behavioral Environmental

"The art (of medicine) consists in three factors – the disease, the patient, and the physician."

- Hippocrates 400BC

"As a factor in the healing process.... The fourth factor – recognizes the contribution of architecture to the art of medicine, expanding Hippocrates's words ... in the delivery of health care ... as an equal partner with medicine."

- The American Institute of Architects, Academy of Architecture for Health 2007

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2. Research Based Design (Health Care)

Architecture – Creation of therapeutic environments

Evidence Based Medicine
Evidence Based Nursing

2. Research Based Design (Health Care)

Architecture – Creation of therapeutic environments

Research Based Design
(Evidence Based Design EBD)

Proven architecture methods decisions on physical space based on research with medical evidence, supported by international consensus.

With clear and measurable improvements in
Ö Clinical outcomes & safety
Ö Patients' experience / satisfaction
Ö Productivity / service efficiency, staff retention
Ö Financial Performance

Table 1. State of EBD Research for Patient Outcomes.

Roger S. Ulrich et al. HERD 2010;4:95-114

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2. Healing Environment for Dementia

Collaboration of +25 years research

Dementia Services Development Centre
UNIVERSITY OF STIRLING

Mary Marshal, Scotland

General Design Philosophy –
“Small homelike facilities that provide opportunities to engage in everyday life.”


Way Forward

“Respond to a vision for way of life”

Fleming (2013)

“Salutogenesis”

Meaningfulness

Sense of Coherence
Antonovsky 1975
2. Healing Environment for Dementia
Design Principles - overview

1. “Small size” & “Homelike”
- Group of 10-28
- Quiet / tranquil
- Compact design
- Personal belongings
- Single room
- Familiar furniture, décor

2. Healing Environment for Dementia
Design Principles - overview

1. “Small size” & “Homelike”
- Group of 10-28
- Quiet / tranquil

Provide a human scale
- The fewer people a resident with dementia has to deal with the less confused they will be.
- In Australia:
  - 8 is good
  - 14 is good and affordable

2. Healing Environment for Dementia
Design Principles - overview

3. “Visual Access”
- Simple, direct
- DSDC University of Stirling 2013
- Open shelves / glass front cupboard
- Higher lighting level
- Natural day light & view to nature

“See and be seen” - Richard Fleming (2013)

Thank you

The Meadows (low-care dementia home)
3 small domestic cottages of 12 – 14 residents each.

Riverview Lodge - 8 per wing

Fleming R (2013) “Environmental Design for People with Dementia: Principles & measurement” video presentation at Curtin University of Technology 20 Feb 2013
2. Healing Environment for Dementia

Design Principles - overview

4. “Control stimuli”

- Highlight important stimuli
- Reduce unwanted stimuli
- Objects as signage (rather than colour/tone), use multiple clues (sight, sound, smell)
- Noise, glare, large shadows, contrast change on floor, staff/services access

5. “Safety”

- Unobtrusive safety & security features – Eg. switches, faucet, kitchen equipment
- Access / Fall prevention
- Indoor / outdoor / perimeter

6. “Outdoor space”

- Planned Wandering
- Landscaped garden
- Indoor garden

Espoo Hospital, Finland
2. Healing Environment for Dementia

Design Principles - overview

View of nature

1984
Roger Ulrich – indoor with views of nature speed healing.

7. “Social Interaction”

Small/private space - 1 to 2 intimate friends

Communal space – larger groups

Locate in community - to maintain social network

Design in Practice

No single “right” way to design & manage
- Cantly & Wilson 2002

Culturally Appropriate Approach

TCM connects nature / environment, human body and health in a holistic way.

TCM fundamental theories link nature (天自然界), pattern of diseases (疾病證候), and one’s surrounding environment (地) in a symbiotic manner (天人相應).

Example: In TCM pathology, elements of nature (五才) and vital organs of human body (五臟) interact according to the Five Elements Theory (五行學說). The theory in turn guides the principle of therapy (治則).

TCM on environment & health.

Architectural and Health TCM

Traditional Chinese Medicine (TCM) = cultural root + therapeutic effect

Cultural heritage = integral part of self identity of elderly, esp. AD, Dementias

2. Healing Environment for Dementia

Culturally Appropriate Approach

“Outdoor space”

Cultural context

2. Healing Environment for Dementia

Culturally Appropriate Approach

A new hypothesis....

Culturally Appropriate Environmental Design
- eg. use of interior finishes, orientation of building & landscape elements.

Health care + Evidence Based Design + Traditional Chinese Medicine (TCM) = Healing environment with a cultural significance

3. Environmental Audit Tools for Dementia

Objectives

➢ To provide a framework / systematic reference point for assessing the care environment based on a set of best practice principles or guideline.

➢ To identify areas of deficiency requiring improvement.

➢ Accreditation (Scotland) / Endorsement (Australia) of facilities.

3. Assessment Tools for Dementia

Tools in Practice

The Environmental Audit Tool (EAT)*

A review of the empirical literature on the design of physical environments for people with dementia.

For small scale, person centred, residential care setting.

EAT. Australia NSW Department of Health

Environmental Audit Tool
(Fleming, Forbes 2003)
- on principles, 72 items.
- Quick, easy to use.

SEAT Scotland
Stirling Environmental Audit Tool
(Cunningham 2006, DSDC 2008)
- on locations, 194 design feature.
- More information for modification.

Earlier Tools

MEAP Multiphasic Environmental Assessment Procedure (Moos and Lemke 1984) - for researchers & larger facilities

PEAP The Professional Environmental Assessment Protocol (Lawton, Weisman et al. 2000) - for researchers

TESS-NH Therapeutic Environment Screening Survey for Nursing Homes (Sloane, Mitchell et al. 2002) - Institutional

Recent Tools

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Tools in Practice

Dementia friendly environment: healing, invariably benefit all

Universal Design.....design for all

Thank you