DEVELOPING AND USING STANDARDS AND GUIDELINES IN PRACTICE

Course: Post Graduate Certificate in Nursing/Midwifery (Applied Clinical and Professional Development)

Module: Contemporary Issues in Nursing and Midwifery

Lecturer: Professor Zena Moore, Dr Tom O’Connor, Ms Chanel Watson.
Outline

• Patient Safety
• Why Standards & Guidelines?
• What are Standards & Guidelines?
• Development
• Implementation
Patient Safety

“Patient safety is the absence of preventable harm to a patient during the process of health care”

(WHO 2013)

http://www.who.int/patientsafety/about/en/
Patient Safety

One in 10 patients is harmed while receiving hospital care

WHO 10 Facts about Patient Safety;
## Patient Safety

### DATA ON ADVERSE EVENTS IN HEALTH CARE FROM SEVERAL COUNTRIES

<table>
<thead>
<tr>
<th>Study</th>
<th>Study focus (date of admissions)</th>
<th>Number of hospital admissions</th>
<th>Number of adverse events</th>
<th>Adverse event rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States of America (New York State) (Harvard Medical Practice Study)</td>
<td>Acute care hospitals (1984)</td>
<td>30 195</td>
<td>1 133</td>
<td>3.8</td>
</tr>
<tr>
<td>United States of America (Utah-Colorado Study (UTCOS))</td>
<td>Acute care hospitals (1992)</td>
<td>14 565</td>
<td>475</td>
<td>3.2</td>
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<tr>
<td>United States of America (UTCOS)¹</td>
<td>Acute care hospitals (1992)</td>
<td>14 565</td>
<td>787</td>
<td>5.4</td>
</tr>
<tr>
<td>Australia (Quality in Australian Health Care Study (QAHCS))</td>
<td>Acute care hospitals (1992)</td>
<td>14 179</td>
<td>2 353</td>
<td>16.6</td>
</tr>
<tr>
<td>Australia (QAHCS)²</td>
<td>Acute care hospitals (1992)</td>
<td>14 179</td>
<td>1 499</td>
<td>10.6</td>
</tr>
<tr>
<td>United Kingdom of Great Britain and Northern Ireland</td>
<td>Acute care hospitals (1999-2000)</td>
<td>1 014</td>
<td>119</td>
<td>11.7</td>
</tr>
<tr>
<td>Denmark</td>
<td>Acute care hospitals (1998)</td>
<td>1 097</td>
<td>176</td>
<td>9.0</td>
</tr>
</tbody>
</table>

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World Health Organization (2002) Quality of care: patient safety; Report by the Secretariat; A55/13
Patient Safety

There is a one in 1,000,000 chance of a traveller being harmed while in an aircraft. In comparison, there is a one in 300 chance of a patient being harmed during health care.
Patient Safety

• 7.5% and 10.4% of hospitalised patients experience injuries due to medications (ADE)

• Estimated to contribute to 140 000 deaths each year in the US alone

• 28% to 56% of ADEs are preventable

Patient Safety

• Surgical adverse events account for 48% of all adverse events and are preventable 54% to 74% of the time

• Nosocomial infections 5% to 10% of hospitalised patients in developed nations

• One in four patients in intensive care may acquire an infection

Patient Safety

• Falls: the most common patient safety injury for older patients in hospitals in developed nations

• Hip fractures: only 14% to 21% of patients recover the ability to perform daily activities

• In the US between 1990 and 2001, pressure ulcers were reported to be the cause of death for 114,380 persons (age-adjusted mortality rate, 3.79 per 100,000 population)

Outline

• Patient Safety
• Why Standards & Guidelines?
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• Implementation
Why Standards & Guidelines?
Why Standards & Guidelines?

http://www.youtube.com/watch?v=RZzwa6VhATc
Why Standards & Guidelines?

“Aim is to improve the effectiveness and efficiency of health care delivery by providing health professionals and patients with information that helps in clinical decision making”

Standards
Outline

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- Implementation
Standards

Are about reliability and validity in how we approach care
Standards
Guidelines

“Statements that include recommendations intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options.”

Guidelines
Useful Resources

• DoH - Future Health A Strategic Framework for Reform of the Health Service 2012 – 2015

• HIQA - National Standards for Safer Better Healthcare (2012)

• Patient Safety First – National Clinical Effectiveness Committee

• HSE - Quality and Patient Safety

• The Strategy of The Office of Nursing and Midwifery Services Director (2012 - 2015)
Standards: Themes

• **Person-centred care and support** – how services place the service user at the centre of their delivery of care.
  • This includes the concepts of access, equity and protection of rights

• **Effective care and support** – how services deliver best achievable outcomes for service users in the context of that service, reflecting best available evidence and information.
  • This includes the concepts of service design and sustainability
Standards: Themes

• Safe care and support – how services avoid, prevent and minimise harm to service users and learn from when things go wrong

• Better health and wellbeing – how services identify and take opportunities to support service users in increasing control over improving their own health and wellbeing.

HIQA National Standards for Safer Better Healthcare June 2012
Standards

Figure 1: Themes for Quality and Safety

- Effective Care and Support
- Safe Care and Support
- Better Health and Wellbeing
- Use of Information
- Use of Resources
- Workforce
- Leadership, Governance and Management
- Person-Centred Care and Support

CULTURE OF QUALITY AND SAFETY

Service User

HIQA National Standards for Safer Better Healthcare June 2012
Person-Centred Care and Support

• **Standard 1.1** The planning, design and delivery of services are informed by service users’ identified needs and preferences

• **Standard 1.3** Service users experience healthcare which respects their diversity and protects their rights

• **Standard 1.5** Service users’ informed consent to care and treatment is obtained in accordance with legislation and best available evidence
Effective Care and Support

• **Standard 2.1** Healthcare reflects national and international evidence of what is known to achieve best outcomes for service users

• **Standard 2.3** Service users receive integrated care which is coordinated effectively within and between services

• **Standard 2.8** The effectiveness of healthcare is systematically monitored, evaluated and continuously improved
Standards
Guidelines

http://www.guideline.gov/browse/by-topic.aspx
**Guidelines**

http://www.guideline.gov/browse/by-topic.aspx
Guidelines

HSE 2009;
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Guidelines

Evidence

- Establish causality (bias --)
- Randomised controlled studies
  - “It is shown that ...”
- Controlled longitudinal studies
  - “It is likely that ...”
- Uncontrolled longitudinal studies
- Cross-sectional studies and case studies
  - “There are signs that ...”
- Expert opinions
  - “Experts are of the opinion that ...”

Generate hypotheses (bias ++)
Finding the Evidence

Bias

“Something that will cause a consistent deviation from the truth”

(The Cochrane Collaboration, 2002)
Finding the Evidence

Abstract

Objective To quantify the consumption of chocolates in a hospital ward environment.

Design Multicentre, prospective, covert observational study.

Setting Four wards at three hospitals (where the authors worked) within the United Kingdom.

Participants Boxes of Quality Street (Nestlé) and Roses (Cadbury) on the ward and anyone eating these chocolates.

Intervention Observers covertly placed two 350 g boxes of Quality Street and Roses chocolates on each ward (eight boxes were used in the study containing a total of 258 individual chocolates). These boxes were kept under continuous covert surveillance, with the time recorded when each chocolate was eaten.

Main outcome measure Median survival time of a chocolate.

Results 191 out of 258 (74%) chocolates were observed being eaten. The mean total observation period was 254 minutes (95% confidence interval 179 to 329). The median survival time of a chocolate was 51 minutes (39 to 63). The model of chocolate consumption was non-linear, with an initial rapid rate of consumption that slowed with time. An exponential decay model best fitted these findings (model $R^2=0.844$, $P<0.001$), with a survival half life (time taken for 50% of the chocolates to be eaten) of 99 minutes. The mean time taken to open a box of chocolates from first appearance on the ward was 12 minutes (95% confidence interval 0 to 24). Quality Street chocolates survived longer than Roses chocolates (hazard ratio for survival of Roses v Quality Street 0.70, 95% confidence interval 0.53 to 0.93, $P=0.014$). The highest percentages of chocolates were consumed by healthcare assistants (28%) and nurses (28%), followed by doctors (15%).

Conclusions From our observational study, chocolate survival in a hospital ward was relatively short, and was modelled well by an exponential decay model. Roses chocolates were preferentially consumed to Quality Street chocolates in a ward setting. Chocolates were consumed primarily by healthcare assistants and nurses, followed by doctors. Further practical studies are needed.

Example

Example

Types of studies

• Studies that randomise individuals (RCTs) or that randomise by groups (cluster-RCTs), were eligible for inclusion

Types of participants

• People of any age, both adults and children, without a pressure ulcer, but considered to be at risk of developing a pressure ulcer, in any care setting

Types of interventions

• The primary intervention was any wound dressing or topical agent applied to the skin at any frequency with the aim of preventing the development of a pressure ulcer.

Example

Primary Outcome

• Pressure ulcer incidence

Secondary Outcomes

• Stage of any new pressure ulcer(s)
• Time to ulcer development
• Costs of interventions
• Quality of life & Pain at dressing change
• Acceptability of the intervention
• Adverse events & Length of hospital stay

Figure 2. Risk of bias graph: review authors' judgements about each risk of bias item presented as percentages across all included studies.

- Random sequence generation (selection bias)
- Allocation concealment (selection bias)
- Blinding of participants and personnel (performance bias)
- Blinding of outcome assessment (detection bias)
- Incomplete outcome data (attrition bias)
- Selective reporting (reporting bias)
- Other bias

Legend:
- Low risk of bias
- Unclear risk of bias
- High risk of bias

**Figure 4. Forest plot of comparison: Topical agent versus placebo, outcome: 5.1 Pressure ulcer incidence. (Houwing study included)**

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Topical agent</th>
<th>Placebo</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Events</td>
<td>Total</td>
<td>Events</td>
</tr>
<tr>
<td>Green 1974</td>
<td>19</td>
<td>79</td>
<td>31</td>
</tr>
<tr>
<td>Houwing 2008</td>
<td>18</td>
<td>29</td>
<td>10</td>
</tr>
<tr>
<td>Smith 1985</td>
<td>35</td>
<td>129</td>
<td>47</td>
</tr>
<tr>
<td>Torra i Bou 2005</td>
<td>12</td>
<td>164</td>
<td>29</td>
</tr>
<tr>
<td>Van Der Cammen 1987</td>
<td>1</td>
<td>60</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>461</strong></td>
<td><strong>479</strong></td>
<td><strong>100.0%</strong></td>
</tr>
<tr>
<td>Total events</td>
<td>85</td>
<td>120</td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: $\tau^2 = 0.22$, $\chi^2 = 14.31$, df = 4 ($p = 0.006$); $I^2 = 72\%$

Test for overall effect: $Z = 0.94$ ($p = 0.35$)

Figure 5. Forest plot of comparison: Topical agent versus placebo, outcome: 5.2 Pressure ulcer incidence. (Houwing study excluded)

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Topical agent</th>
<th>Placebo</th>
<th>Risk Ratio M-H, Fixed, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Events</td>
<td>Total</td>
<td>Events</td>
</tr>
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<td>Green 1974</td>
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<tr>
<td>Van Der Cammen 1987</td>
<td>1</td>
<td>60</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>432</strong></td>
<td><strong>447</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Heterogeneity: $\chi^2 = 2.82$, df = 3 ($P = 0.42$); $I^2 = 0$

Test for overall effect: $Z = 3.36$ ($P = 0.0008$)

Figure 6. Forest plot of comparison: Dressing versus no dressing, outcome: 7.1 Pressure ulcer incidence.

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Dressing</th>
<th>No dressing</th>
<th>Risk Ratio M-H, Fixed, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Han 2011</td>
<td>2/49</td>
<td>5/51</td>
<td>0.42 [0.08, 2.05]</td>
</tr>
<tr>
<td>Kalowes 2012</td>
<td>1/169</td>
<td>7/166</td>
<td>0.14 [0.02, 1.13]</td>
</tr>
<tr>
<td>Nakagami 2007</td>
<td>2/37</td>
<td>11/37</td>
<td>0.18 [0.04, 0.76]</td>
</tr>
<tr>
<td>Qiuli 2010</td>
<td>0/26</td>
<td>3/26</td>
<td>0.14 [0.01, 2.63]</td>
</tr>
<tr>
<td>Total (95% CI)</td>
<td>281/280</td>
<td>100.0%</td>
<td>0.21 [0.09, 0.51]</td>
</tr>
</tbody>
</table>

Total events: 5/26

Heterogeneity: Chi² = 0.96, df = 3 (P = 0.81); I² = 0%
Test for overall effect: Z = 3.45 (P = 0.0006)
Conclusions

There is insufficient evidence from RCTs to support or refute the use of topical agents applied over bony prominences to prevent pressure ulcers. Although the incidence of pressure ulcers was reduced when dressings were used to protect the skin, results were compromised by the low quality of the included trials.

Conclusions

These trials contained substantial risk of bias and clinical heterogeneity (variations in populations and interventions); consequently, results should be interpreted as inconclusive.

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Implementation

Five Steps

• Assess stage of readiness to change
• Assess specific barriers to change
• Determine appropriate level of intervention
• Design dissemination & implementation plan
• Evaluate the impact of the implementation strategies

Diffusion of Innovation

Knowledge

Persuasion

Decision

Implementation

Confirmation

Rejection


RCSI
Opinion leaders

Influenced by opinion leaders and peers

Need more incentives

2.5% Innovators

Early Adopters 13.5%

Early Majority 34%

Late Majority 34%

Laggards 16%

http://www.rayten.com/tag/product-market-fit/
The Transtheoretical Model of Change

The Transtheoretical Model of Change

- Moving from pre contemplation to contemplation - need to change knowledge and attitudes
- Moving from contemplation to preparedness and action – need to change emotional processes, self efficacy and skills
- Moving to maintenance - need to restructure the environment and provide rewards and social support

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