PERCEIVED BARRIERS TO RESEARCH UTILIZATION AMONG REGISTERED NURSES IN JAMAICA

STTI Conference, Cape Town, South Africa

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Evidence based practice (EBP) and research utilization (RU) are two terms that are often used interchangeably.

RU refers only to using findings from research studies.

EBP refers to the critical appraisal of all ‘best’ existing evidence, clinical expertise and judgment; & patient’s preferences and values.

(Fineout-Overholt et al., 2005)
RU has been considered the gold standard in the provision of quality patient care (Brown et al., 2009); because it increases the probability of desired health outcomes for patients (IOM, 2013).
INTRODUCTION

- RU is necessary for the increase in transparency and demand for quality, competent and cost effective patient-centered care  
  (Mehrdad, et al., 2008).

- Despite an increase in convenient access to research-based knowledge; the pace of utilizing the evidence in practice is either slow or lacking  
  (Squires et al., 2011).
RU among nurses has been problematic because of several barriers (Boström, et al. 2008). Barriers relating to:

- Nurses knowledge and skills
- Limitations within their organization or setting
- Quality of the research
- Presentation and accessibility of research findings (Funk, Champagne, Wiese & Tornquist, 1991).
THEORETICAL FRAMEWORK

- Everett Rogers’ Diffusion of Innovation theory - Rogers’ explains the process individuals go through in adopting or rejecting technology, new ideas or practices.

- The adoption or rejection of new ideas or practices is influenced by varying elements.
THEORETICAL FRAMEWORK

- Innovation.................. (quality of the research)
- Communication.............. (presentation of the findings)
- Social system.................. (organization / setting)
- Adopter......................... (Nurse)
LITERATURE REVIEW

- Studies conducted among nurses in government and private hospitals in China, Turkey, Iran, Australia, Canada reported ≥ 50% of organizational issues were the major barriers.

(Uysal et al., 2010; Mehrdad et al., 2008; Hutchinson & Johnston, 2004; McCleary & Brown, 2002).
Frequently reported #1 barrier relating to the setting were mainly:

- **A lack of time to employ new ideas** (Chien et al., 2013; Kocaman et al., 2010).

- **Inadequate time to read research articles** (Mehrdad et al., 2008; Hutchinson et al., 2004).
• The “inadequacies of a facility to enable implementation of research evidence”

• This was of note ranked high mainly among developing countries such as Turkey and Iran (Uysal et al., 2010; Mehrdad et al., 2008).
LITERATURE REVIEW

Barriers relating to the Adopter (Nurses):

- They are unaware of research
- Persons who are knowledgeable about research were inaccessible

Uysal et al. (2010)
Though knowledge is key, Chien et al. (2013) reported a weak negative correlation (P=0.04); (r= -0.20) between the nurses’ education level and their perception of the barriers to RU.

However the relationship is still not explicit.
LITERATURE REVIEW

• ‘Quality of the research & communication of its findings’ in comparison to the other two elements are often ranked low (Wang et al., 2013; Kocaman et al., 2010).

• Issues such as lack of access to evidence & understanding of research and statistical languages were the main barriers (Boström et al., 2008; Uysal et al., 2010)
In an study conducted among nurses at a large hospital in Jamaica:

FINDINGS - Majority of nurses had a positive attitude towards RU, **only 27%** indicated that they had integrated research evidence into their practice (Hylton, 2013)
Much is still yet to be understood about the obstacles particularly among nurses in Jamaica and the Caribbean.
PURPOSE OF THE STUDY

To examine Registered Nurses perception of the barriers that hinder the use of research evidence in the clinical practice.
OBJECTIVES

• To determine the extent to which RNs in the clinical practice perceive the barriers to RU.

• To determine the relationship between demographic characteristics and the perceived barriers to RU among RNs.
METHODOLOGY
A quantitative approach using a descriptive correlational design was used to conduct the study.
• Study was conducted among RNs at an urban hospital in Jamaica.

• RN- level 1; Specialist trained RN- level 2 and Charge Nurses- level 3.
SAMPLE SIZE

• Using prevalence estimate of 79% and the sample size formula; as well as applying a confidence interval of 95%, a margin of error 5%

• Sample size was 178. Accounting for a non-response rate of 10%, 195 participants were selected to participate in the study.
SAMPLE SELECTION

• A systematic sampling technique was used to select the participants for this study.

• Interval: Population (650) was divided by the sample size (195).
INCLUSION & EXCLUSION

• Included: all levels 1, 2 & 3 RNs with or without an academic degree; both full-time and part-time.

• Excluded: Clinical Nurse Managers, Nurse Educators and Nursing Directors.

Enrolled Assistant Nurses & RNs who were on leave during the time of the study were excluded.
• A self-administered 29-item questionnaire (BARRIERS Scale) that asked participants to rate the extent to which they perceived each item as a barrier to using research evidence in their practice.

• On a scale of 1 to 5
  (1=to no extent; 2=to a little extent; 3=to a moderate extent; . . . 4=to a great extent; 5=no opinion).
The BARRIERS Scale (Funk et al, 1991) had four subscales:

1. **SETTING** includes the organizational background, context and limitations – 8 Items

2. **NURSE** includes the nurses’ values, skills and awareness of research – 8 Items

3. **RESEARCH** - includes the arrangement and qualities of the research - 6 Items

4. **PRESENTATION** - includes the communication and accessibility of the research evidence - 6 Items
DATA COLLECTION TOOL

One item was not classified under any of the subscales but was considered useful to remain on the tool.

Higher scores meant that the participants perceived a greater hindrance.
RELIABILITY & VALIDITY

RELIABILITY

• Pretesting and final study - Cronbach’s alpha of 0.86 and 0.92 respectively

• Other studies reported a Cronbach’s alpha of 0.69 to 0.86

VALIDITY

• two experts in EBP evaluated and provided feedback on the comprehensiveness and accuracy of
ETHICAL CONSIDERATIONS

• UWI Ethics Committee approved the study

• Permission from the hospital’s CEO & Senior Director of Nursing was given to conduct the study.

• Permission to use the BARRIERS Scale tool

• Confidentiality & Anonymity was maintained.
ETHICAL CONSIDERATIONS

• Informed consent was signed by participants prior to filling out the questionnaire.
DATA ANALYSIS

• The data were analyzed using SPSS version 20.

• Descriptive statistics were used to summarize the data.

• t-test and ANOVA, were used to examine the relationships among the demographic characteristics and the barrier scores.
• 168 participants completed and returned the questionnaires. Response rate 94.4%. 
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>$n$</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>163</td>
<td>97.0</td>
</tr>
<tr>
<td>Males</td>
<td>5</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>Age Group (Years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\leq 30$</td>
<td>79</td>
<td>47.6</td>
</tr>
<tr>
<td>31 – 39</td>
<td>63</td>
<td>38.0</td>
</tr>
<tr>
<td>$\geq 40$</td>
<td>24</td>
<td>14.5</td>
</tr>
<tr>
<td>Mean</td>
<td>32.07 ± 6.98</td>
<td></td>
</tr>
<tr>
<td><strong>Nationality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jamaican</td>
<td>164</td>
<td>98.8</td>
</tr>
<tr>
<td>Non-Jamaican</td>
<td>2</td>
<td>1.2</td>
</tr>
<tr>
<td><strong>Educational Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diploma / Certificate (nursing)</td>
<td>28</td>
<td>16.7</td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>132</td>
<td>78.6</td>
</tr>
<tr>
<td>Masters’ Degree or above</td>
<td>8</td>
<td>4.8</td>
</tr>
<tr>
<td><strong>Clinical Experience in Years</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\leq 1$</td>
<td>13</td>
<td>7.9</td>
</tr>
<tr>
<td>1 – 5</td>
<td>72</td>
<td>43.9</td>
</tr>
<tr>
<td>6 – 10</td>
<td>56</td>
<td>34.1</td>
</tr>
<tr>
<td>$\geq 10$</td>
<td>23</td>
<td>14.0</td>
</tr>
</tbody>
</table>
Top 10 Ranked Perceived Barriers

- Lack of authority to change practice
- Facilities are inadequate for implementation
- Results are not generalizable to setting
- Nurse is unaware of research
- Lack of support from other staff
- Research articles are not readily available
- Research articles are not readily published
- Overwhelming amount of research articles
- Lack of support from Administration
- Lack of cooperation from Physicians

Percentage %

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>83.3</td>
<td>Lack of authority to change practice</td>
</tr>
<tr>
<td>78.3</td>
<td>Facilities are inadequate for implementation</td>
</tr>
<tr>
<td>74.6</td>
<td>Results are not generalizable to setting</td>
</tr>
<tr>
<td>68.2</td>
<td>Nurse is unaware of research</td>
</tr>
<tr>
<td>63.7</td>
<td>Lack of support from other staff</td>
</tr>
<tr>
<td>62.8</td>
<td>Research articles are not readily available</td>
</tr>
<tr>
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<tr>
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<td>57.7</td>
<td>Lack of support from Administration</td>
</tr>
<tr>
<td>56</td>
<td>Lack of cooperation from Physicians</td>
</tr>
</tbody>
</table>
Relationship between Age Group & Mean Barrier Scores

Between Groups: $p = 0.830$
Relationship between Educational Level & Mean Barrier Scores

\[ p = 0.019 \]
# Relationship between Years of Experience & Mean Barrier Scores

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>N</th>
<th>Overall Barrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1 year</td>
<td>13</td>
<td>68.3 ± 13.5</td>
</tr>
<tr>
<td>1 – 5 years</td>
<td>72</td>
<td>68.7 ± 14.1</td>
</tr>
<tr>
<td>6 – 10 years</td>
<td>56</td>
<td>71.8 ± 16.4</td>
</tr>
<tr>
<td>&gt; 10 years</td>
<td>26</td>
<td>72.9 ± 18.7</td>
</tr>
</tbody>
</table>

\[ P \text{ value} = 0.555 \]
DISCUSSION

Evidently the organization or setting is a significant factor to initiate and propel RU.
The highest ranked barrier was ‘a lack of authority to change practice’.

• This perception could be influenced by the physician’s dominance in health care.

• As nursing in Jamaica still operates from a traditional hierarchical health care system where doctors head the health team (Edwards et al., 2009).
• Majority of nurses in this study were young, with 47% ≤30yrs & 50% <5yrs of clinical experience.

• This could hinder the nurses’ confidence in their ability to change practice or may fear challenging higher authorities in the implementation of new evidence.

• The lack of experienced nurses to emulate may also affect the readiness and their self-efficacy to implement new ideas.
DISCUSSION

• Second ranked barrier, ‘inadequate facilities for implementation’ was similarly ranked high in developing countries such as the Middle East, Turkey and Iran (Buhaid et al., 2014; Uysal et al., 2010; Mehrdad et al., 2008).

• Contrastingly it was ranked low in some developed countries such as the USA and Canada (Atkinson et al., 2008, McCleary &Brown, 2003).
DISCUSSION

• The ‘results are not applicable to setting’ – 3rd
...was ranked in the top ten mainly among nurses from non-English speaking countries eg. China & Iran (Chien et al., 2013; Mehrdad et al., 2008).

• For this study the nurses’ awareness of the existing research evidence is in question, considering that the 4th ranked barrier was ‘unaware of research’
> 50% of the nurses indicated that ‘statistical analyses are not understandable’ & the ‘amount of research evidence is overwhelming’

• Providing access to clinical guidelines such as RNAO BPGs helps to communicate the evidence in a more meaningful manner enhances RU.
DISCUSSION

• While higher scores was expected from nurses with diploma

• Higher barrier scores from graduate nurses versus those with a bachelors is thought provoking as it is expected that graduate prepared nurses’ perception would have been less.
Post hoc tests revealed that there were only significant differences between RNs with a bachelor’s and diploma. 

<table>
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<tr>
<th>Educational Level</th>
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<th>Overall Barrier Score</th>
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</tr>
<tr>
<td>Bachelors</td>
<td>132</td>
<td>68.4 ± 14.7</td>
</tr>
<tr>
<td>Masters/Doctorate</td>
<td>8</td>
<td>73.1 ± 14.9</td>
</tr>
</tbody>
</table>

P-value

\( p = 0.019 \)
CONCLUSION

• Most of the barriers were related to the setting.

• Challenges surrounding lack of authority and structural resources of the work setting are obstacles that were predominantly perceived by the nurses.
CONCLUSION

• In addition, education at the bachelor’s level is important to minimize the barriers.

• Findings from this study can provide valuable direction to help administrators and educators to collaboratively develop strategic intervention programmes to increase RU in the delivery of quality patient care.
LIMITATIONS

• This was a descriptive correlational study, hence making predictive or causal inferences from this study must be cautioned (Polit & Beck, 2012).

• Additionally, the sample was limited to RNs from one hospital in Jamaica, therefore the findings cannot be generalized.
LIMITATIONS

• The use of self-reporting questionnaires to collect data is susceptible to social desirability & the likelihood different interpretations of the barrier items.
REFERENCES


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Thank you