Lecture Series LXXXIII

PARI: Strengthening Health Research in Nepal

Kathmandu, 6th April 2015

Prof. Edwin van Teijlingen
Partnership on improving Access to Research Literature for Higher Education Institutions in Nepal (PARI)

Grantholders: Ram Sharan Pathak, Padam Simkhada, Bhimsen Devkota, Edwin van Teijlingen

References:
Evidence-based medicine or health care or policy-making relies on good information to base your decisions upon.

↓↓

Good research evidence needs to be collated, assessed and disseminated for practitioners / policy-makers.

↓↓

Best possible research evidence needs to ‘fit’ into local culture and available health systems & services.

↓↓

Research is about being critical & questioning!
HE (Higher Educ.) which is research-based or research focused seems to be in its infancy in Nepal, but growing.

Teaching at Nepalese universities appeared to be more didactic than in the UK.

What we teach doctors/nurses today as best practice “much of it will be out of date or wrong in 15 years time”.

Health care workers need skills to find and assess available research evidence for their future practice.

University staff needs right attitudes, skills & confidence to offer research-based teaching (=Capacity Building).
Limited research capacity

Health and Medical Research in Nepal: A Bibliometric Review

Padam P. Simkhada, PhD, Yuba R. Baral, MSc, and Edwin R. van Teijlingen, PhD

Abstract
This study aimed to quantify the following: (1) health research in academic journals covering Nepal, (2) location of authors, and (3) most prevalent specialties. Published health research conducted in Nepal during 1996 to May 2007 was assessed by searching from 4 electronic databases, and 631 research articles met the inclusion criteria. Only 11% was published in Nepalese journals. Most research covered urban districts. About two thirds of articles had Nepalese authors, but only 41% had a Nepalese first author. Child health and nutrition (41%), maternal health and...
Paper concluded:

- number health research articles is small, perhaps due to:
  - lack of funding;
  - poor health research planning & policies;
  - lack proper training;
  - an underdeveloped research culture.
Research capacity focus

- Limited research capacity
- Underdeveloped research culture
- Practice needs to be evidence-based
- Research resources (e.g. HINARI) people don’t know about it and/or use it
- Motivated by MDG 8: Develop a Global Partnership for Development
HINARI Access to Research in Health Programme

HINARI Programme set up by WHO together with major publishers, enables low- and middle-income countries to gain access to one of the world's largest collections of biomedical and health literature. Up to 13,000 journals (in 30 different languages), up to 29,000 e-books, up to 70 other information resources are now available to health institutions in more than 100 countries, areas and territories benefiting many thousands of health workers and researchers, and in turn, contributing to improve world health.
Capacity-building programme to ensure higher education staff in Nepal become more aware of world-wide electronic literature and use this information critically.

2010
- Curricula review & Needs assessment
- Training package development

2011
- Field testing training package
- Training academics & librarians across Nepal

2012/2013
- Workshop Curriculum Improvement
- Development of Network & Dissemination

2014
- Wring academic papers.
PARI Project

Tribhuvan University (Nepal), the University of Aberdeen, Bournemouth University, the University of Sheffield (both in the UK) and the Development Resource Centre, a non-governmental organisation based in Kathmandu, formed a Partnership on improving Access to Research Literature for Higher Education Institutions in Nepal (PARI). PARI is a three-year capacity-building programme which aims to ensure higher education lecturers in Nepal become more aware of the worldwide electronic literature and learn how to use this information critically. Higher institutions and researchers, including university teachers, often do not access freely available research literature databases in Nepal. A lack of knowledge of available resources and a lack of the necessary skills to search for evidence are key barriers to accessing the research literature. As a result, higher education institutions, lecturers and researchers in Nepal have limited access to global information, obscuring development potential. PARI aims to overcome these barriers.
Mixed-Methods Approach:

• Primary research:
  1. Questionnaire study 200+ staff in universities.
  2. Interviews with senior academics
  3. Focus groups discussions with students

• Secondary research:
  1. Curriculum review
Advocating mixed-methods approaches in health research

MacKenzie Bryers H¹-², van Teijlingen E³-⁵, Pitchforth E⁶

¹ Head of Midwifery, NHS Highland, Inverness, UK.
² Honorary Research Fellow, Centre for Rural Health, University of Aberdeen.
³ Professor, School of Health & Social Care, Bournemouth University, Bournemouth, UK.
⁴ Visiting Professor, Manmohan Institute of Health Science, Tribhuvan University, Nepal.
⁵ Visiting Professor, Nobel College, Pokhara University, Kathmandu, Nepal.
⁶ Research Leader, RAND Europe, Cambridge, UK.

Chief Editor
Dr. Brijesh Sathian

Aims
• To assess staff’s IT access, experience in research-teaching, publishing, using electronic databases, etc.

Methods
• Questionnaire study of over 200 members of staff of many colleges of four universities.
### Table 3: HE teachers who have published research papers in peer reviewed journals

<table>
<thead>
<tr>
<th></th>
<th>No.</th>
<th>Percentage</th>
<th>$\chi^2$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TU</td>
<td>32</td>
<td>57.1</td>
<td></td>
</tr>
<tr>
<td>PU</td>
<td>25</td>
<td>33.3</td>
<td></td>
</tr>
<tr>
<td>KU</td>
<td>36</td>
<td>53.7</td>
<td>P=0.023</td>
</tr>
<tr>
<td>PoU</td>
<td>6</td>
<td>26.1</td>
<td></td>
</tr>
<tr>
<td>BPKIHS</td>
<td>17</td>
<td>73.9</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>116</td>
<td>47.5</td>
<td></td>
</tr>
</tbody>
</table>

3. By gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>No.</th>
<th>Percentage</th>
<th>$P$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>73</td>
<td>67.6</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>43</td>
<td>31.6</td>
<td>P=&lt;0.001</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>116</td>
<td>47.5</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1: Teacher access to electronic database by discipline

- Medicine: 54%
- Dentistry: 90%
- Pharmacy: 35%
- Nursing: 50%
- Public Health: 40%
- Med. Microbiology: 47%
- Total: 49%

PARI: Staff Survey 2010

• Most respondents were female, had MSc, 1-5 years experience, quarter was <30, nearly half aged 30-39.
• Only 47.5% published in journal; men & higher ranks more likely than women/lower ranks.
• Internet in nearly all institutions, all had library.
• Few thought librarians supported accessing databases.
• PubMed & HINARI only elect. databases mentioned.
• Quarter institutions had some research capacity funding.
Staff Survey: Staff access to electronic resources

Whether or not electronic research databases were available and used by the HE teachers was another key question of the study. On the whole, 119 out of 244 (48.8%) HE teachers reported that they had access to electronic research databases at their HEIs. The study

PARI: Qualitative Overview

- Heads of department, coordinators and principals of institutions offering health-related degrees were interviewed about: importance of research, IT facilities, students’ motivation, skill /abilities staff in accessing research literature, curricula reviews, etc.
- Four focus groups with students, each with 7 to 12 participants. One FGD each was held at four different institutions with students from various health-disciplines.
All agreed research-methods teaching is important.
All claimed to have IT facilities, but: (a) not all computers were equally good; (b) not enough computers for all students; or (c) no generator.
Electronic data bases were not always used.
Generally positive about library staff’s IT ability.
Mixed responses about abilities of teachers on searching research literature. The notion was that younger staff was more familiar with IT in general.
Need for training recognised, both not widely available.
Students IT literate, had home computers, some without internet. Internet used more socially than for study. Computer labs open all day (6 AM to 6 PM) working days but these were not well managed.

Students used PubMed, HINARI, *BMJ*, *NEJM*, *WHO Bull.*, open-access journals, search engines (Google).

Lack of knowledge and experience in using of research literature among students and staff. Accessing research literature should be in curriculum. Make accessing electronic data bases examinable to get students to study. Make it count.
Summary Nepal health research

Higher Educ. which is research-based or research focused seems to be in its infancy in Nepal, but growing.

Teaching at Nepalese universities appears to be more didactic than in the UK.

Health care workers need skills to find and assess available research evidence for their future practice.

Younger (newer) staff generally more familiar with IT.

University staff needs right attitudes, skills & confidence to offer research-based teaching (=Capacity Building).
Curriculum Review Method

<table>
<thead>
<tr>
<th>Level</th>
<th>TU</th>
<th>KU</th>
<th>PoU</th>
<th>PU</th>
<th>BPKIHS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor level</td>
<td>11</td>
<td>4</td>
<td>6</td>
<td>4</td>
<td>6</td>
<td>31</td>
</tr>
<tr>
<td>Master level</td>
<td>26</td>
<td>20</td>
<td>0</td>
<td>1</td>
<td>27</td>
<td>74</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>24</td>
<td>6</td>
<td>5</td>
<td>33</td>
<td>105</td>
</tr>
</tbody>
</table>

Legend: TU Tribhuvan University; KU Kathmandu University; PoU Pokhara University; PU Prubanchal University; BPKIHS BP Koirala Institute of Health Science

### Example Matrix: Undergraduate BSc Nursing

<table>
<thead>
<tr>
<th>Name of Programme</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BSc Nursing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literature review</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Research design - qualitative/quantative</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Statistics</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sampling</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Ethical consideration in research</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Writing up proposal</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Citation and referencing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systematic review/ meta analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data analysis-</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Data analysis software</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

**GAPS**
• As expected much more research related contents at Master’s level than Bachelor
• Content of research varies within the level
• Research component Bachelor varies from as low as 1% to over 20% of total course
• Some curricula are ‘new’, whereas others are more than a decade old
• MD: least defined ‘research methods’ curricula
Strengths

• Basic statistics included in most curricula
• Data analysis software
• Newly introduced curricula have more detailed research component.
• General health-related curricula have higher proportion of research related course
• Access to electronic research literature database is mentioned in some curricula
Gaps in most curricula

- Weighting research-related elements varies among disciplines: Clin./lab-based curricula are less defined.
- Curricula vary within/between universities
- Most curricula lack contents in:
  - Ethical consideration in health research
  - Citation and referencing
  - Systematic review
- Access elect. research literature can be improved
Nepal. Our key recommendations are that higher education institutions in Nepal need to review, where necessary revise existing health science curricula to strengthen their research methodology contents. Similarly, curricula should include more contemporary issues in research methodology training. The curricula should include clear instructions to students on how to access the most-up-to-date research literature and how to appraise the research articles.

EBP workshop 2011

Workshop on Access to Health Research & Evidence-based Practice 2010-2011
Partnership on Improving Access to Research Literature for Higher Education Institutions in Nepal (PARI)
Supported by DFID
Organised by...
How to read a paper

Three starter questions:
• Why was the study done and what were authors testing?
• What type of study did they do?
• Was design appropriate to broad field of research in question?

Parts of a paper
A. Abstract
B. Introduction/Background
C. Methods
D. Results
E. Discussion
F. References (Bibliography)

Find all key information
Find aims & objectives

Example slide from workshop material aimed at health staff on: ‘How to read a paper’
Workshops ‘outcomes’

- Concept and methodology of systematic reviewing was new to majority of Nepalese academics at workshops.
- There is a need for hands-on training skills on critical appraisal and interpreting systematic reviews by health professionals.
- One-day workshop in Kathmandu to bring as many directors of nursing & medical colleges together as possible to establish elements of EBP are most needed in health workforce.
Workshop team at BP Koirala Institute of Health Science (BPKIHS)
Overview PARI Dissemination

• Each of the three years included dissemination workshop;
• Dissemination through media;
• Academic dissemination:
  – Conferences
  – Scientific papers
  – Webpages (less successful)
In a bid to strengthen health research in the country, the British Council today announced a grant of Rs 10 million to Tribhuvan University Central Department of Population Studies.

TU, the University of Aberdeen, Bournemouth University (both UK) and the Development Resource Centre have initiated a project ‘Partnership in improving Access to Research Literature for Higher Education Institutions in Nepal (PARI)’. Prof. Ram Sharan Pathak said, “The universities here lack access to the internet, making it difficult for students to access research-based information on medicine, pharmacy and public health. As a result, the students have not been able to study academically any emerging disease and take immediate control measures.”

PARI is a joint initiative taken by Tribhuvan University and the UK-based University of Sheffield, University of Aberdeen and Bournemouth University as well as the Development Resource Centre for identifying health resource information and stressing the need of evidence-based practice.
Media in Nepali
Handbook for Research Methodology
Approaches and Techniques

Lead Coordinator: Ram Sharan Pethak
Compiler / Editor: Bidhan Acharya

March 2013
Kirtipur, Kathmandu, Nepal

Freely available online at:
Conferences


- Reading, UK 2012 BNAC conference: ‘Systematic review workshops on collaborative evidence-based practice for higher education institutions in Nepal’.

  https://wfpha.confex.com/wfpha/2012/webprogram/Paper9064.html
Discussion points??

• Why do staff not know about resources such as HINARI?
• Can we build capacity that is fit for purpose? The more we train Nepal’s health professionals the more employable they become in the West.
THANK YOU!