

Does a problem-based learning MBBS curriculum prepare Resident Medical Officers for paediatric practice in Papua New Guinea?

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Problem Based Learning

Traditional Learning

Told what we
need to know



Memorise it



Problem Assigned
to illustrate how to
use it

Problem –Based Learning (PBL)

Problem
assigned



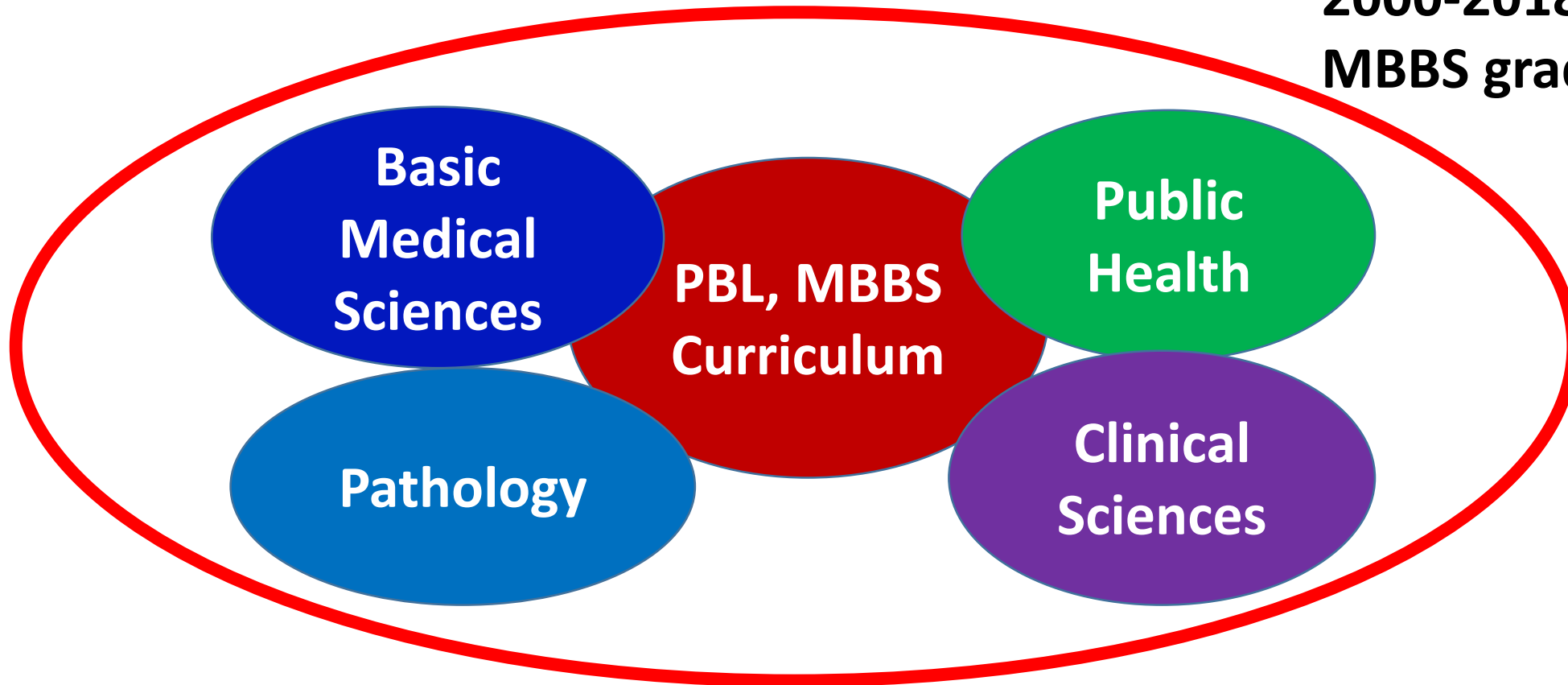
Identify what we
need to know



Learn and apply
it to solve the
problem

SMHS/UPNG- PBL (Properly implemented in 2000)

**2000-2018: 931
MBBS graduates**



4 year programme followed by 2 years Residency

Why conducting the study?

- The degree to which the problem based curriculum at SMHS,UPNG prepares graduates for the workforce has not to date been evaluated since 2000

Aim

- Assess the effectiveness of the current curriculum in preparing the students for their residency rotation in Paediatrics.

Research question

- Does PBL prepare undergraduate MBBS well for RMO practice in child health?

Methodology 1

- **Study design:**
 - Self administered Questionnaire based survey.
 - standardised and validated Preparation for Hospital Practice Questionnaire, [\(PHPQ\)](#).
- **Study population:**
 1. RMOs currently working – or who had previously worked in Paediatric Unit.
 2. Clinical supervisors (paediatricians and Registrars)
- **Study site:** Port Moresby General Hospital (PMGH)
- **Study duration:** August -October, 2018.

Methodology

- Residents 35 questions +
- open question indicating areas felt insufficiently prepared.
- Supervisors 10 questions
- Responses scored on a Likert Scale of 1-5

Data entry and Analysis :

- Excel spread sheet . Mean and SD determined
 - ≥3.5 agree
 - ≥3.9 strongly agree of overall approval
 - ≤3.0 disagree

Study approved by SMHS research and ethical committee



Areas explored in Questionnaire

- **Interpersonal Skills**
- **Confidence/coping skills**
- **Collaboration**
- **Practical skills and patient management**
- **Understanding Science**
- **Prevention- health promotion and disease prevention**
- **Holistic care**
- **Self Directed learning**



Results

- **Participants returning questionnaires**
 - **25/38 (66%) RMOs**
 - **19/25 (76%) Clinical Supervisors**
- **RMOs**
 - **14/25 (56%) of respondents female**
 - **22/25 (88%) aged between 23-28**
- **Clinical Supervisors (19)**
 - **12 registrars and 7 Pediatricians**

Results Likert Mean Scores.

- Resident Medical Officers (35 questions)
 - ≥ 3.9 in 16 (46%)
 - ≥ 3.5 in 24 (69%)
 - ≤ 3.0 in 5 (14%)
- Clinical supervisors.
 - ≥ 3.5 in 8/10 questions
 - Lowest score 3.29 ([basic science knowledge](#))

RMO : Higher scoring questions.

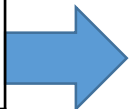
Score \geq 4	Mean	SD
Evaluating the impact of family factors on illness	4	0.82
Performing basic procedures	4.24	0.72
Being responsible for my own learning	4.2	1
Understanding illness relating to social conditions	4.12	1.01
Taking the patients ethical /cultural history into account	4.12	0.03
Encouraging patients and parent to improve life habits	4	0.96

RMO higher scoring questions cont...

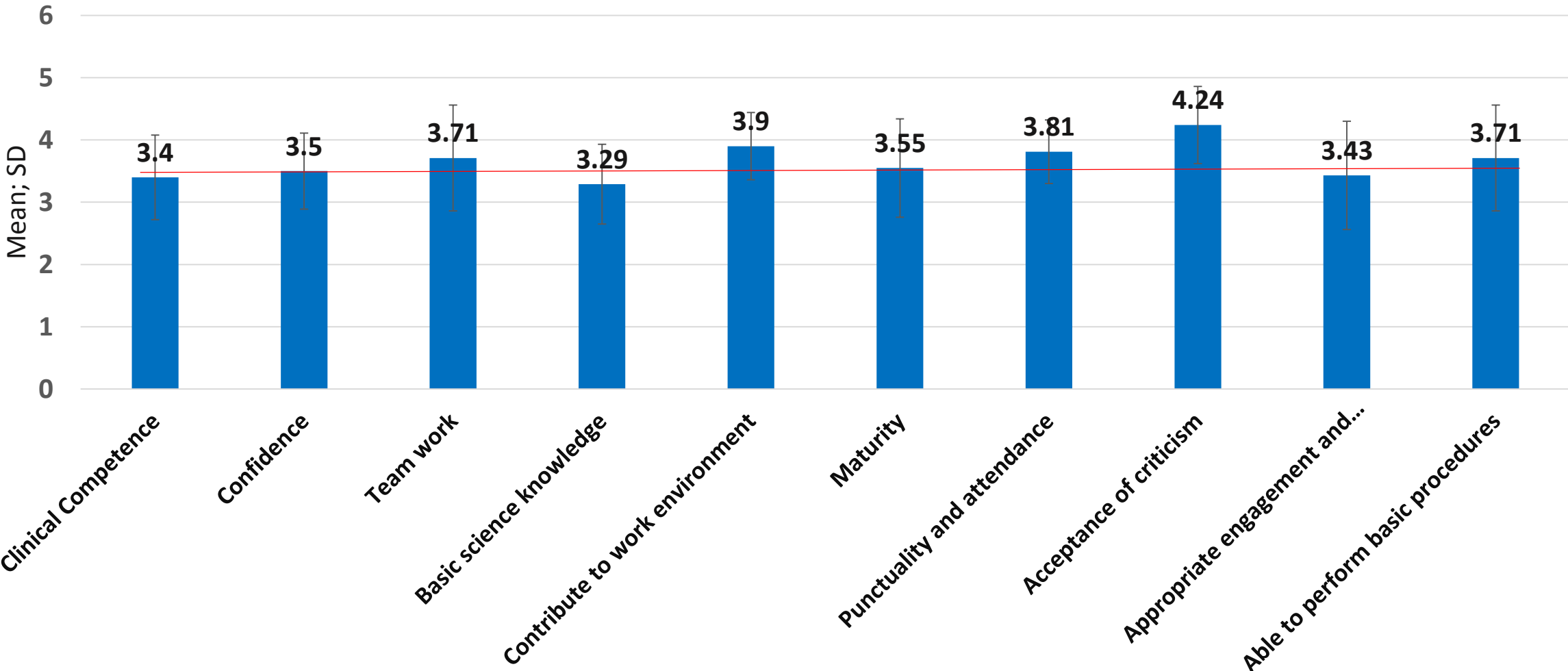
Score \geq 4	Mean	SD
Carrying out physical examination efficiently	4.16	0.9
Taking proper history for patients/parents	4.6	0.58
Establishing a good patient/health worker relationship	4.04	0.89
Understanding the importance of group dynamics whilst working together as a team	4.04	0.89
Providing parents/patients with knowledge through education	4.08	0.7
Being confident to ask more experienced doctors assistance in interpreting investigations	4.12	0.88

RMO Lower scoring questions.

SCORE < 3.0	Mean	SD
Dealing with Job Stress	2.72	1.31
Dealing with my emotions and distressing situations	2.92	1.41
Balancing job and personal life.	2.92	1.38
Dealing with parents and families of children who die	2.88	0.97
Keeping computerized clinical data records.	2.76	1.16



Clinical supervisors view on RMOs' performance



Skills assessed

Discussion

- **Few studies of preparedness for clinical practice from low/middle income countries.**
- **Transition from a Medical student to a Resident Medical Officer is a time of considerable stress.**
- **Our study found that:**
 - **RMO feel ill prepared to cope with job stress and to balance their job and personal life.**
 - **Lowest scores were on issues relating to handling emotional stress.**

- **Whether or not such areas can be satisfactorily taught in the undergraduate PBL curriculum is questionable.**
- **‘Breaking Bad News’ cannot fully replicate the real experience**
- **Some studies from High income countries suggest:**
 - **discordances between skills taught in Medical Schools (often using simulation) and**
 - **skills required of the Junior Doctor in the “real world”**
- **Structure of our programme at the SMHS ensures that students already have considerable experience of the practical skills required when they become RMOs.**

- **Present study indicates:**
 - **majority of the RMOs felt that the current PBL programme had prepared them satisfactorily.**
 - **supported by the view of their clinical supervisors.**
- **Skills RMOs felt should receive more attention.**
 - **paediatric resuscitation**
 - **neonatal resuscitation.**
 - **this view was echoed by the clinical supervisors.**

Limitations

- **Small pilot study limited to first and second year RMOS in Paediatrics- the authors' clinical area.**
- **low response rate (66%) raises the possibility of positive bias, and**
- **second year RMOs may not accurately reflect the opinions of first year RMOs.**
- **Different perceptions may exist:**
 - **Surgery ,and Obstetrics and Gynaecology**

Conclusion

- **Small study gives us confidence that the current PBL programme at SMHS prepares undergraduates satisfactorily for their clinical role as RMOs in Paediatrics.**
- **Suggestions from the participants are being used to improve the programme.**
- **Similar studies should be carried out to explore the views of RMOs working in other clinical disciplines.**
- **Results also indicate areas in which the Curriculum can be modified to address some of the perceived deficiencies**
- **There is a need for suitably empathetic supervisors or mentors in the workplace.**

Acknowledgment

- **Willing participation of the Resident Medical Officers and Clinical Supervisors.**