DRAFT

Report on Evaluation of Pre-service Integrated Management of Neonatal and Childhood Illness (IMNCI) in Liaquat University of Medical and, Health Sciences (LUMHS), Jamshoro, Sindh, Pakistan
October 2011

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PRE EVALUATION ACTIVITIES: WITH WHO TEAM PAKISTAN

1. WITH EMRO TEAM:
   First correspondence in January 2011 to confirm the request by LUMHS for evaluation

Discussions on telephone and through mails to clarify the teaching methods, the content of course covered and evaluation objectives from march onwards

Sharing of information on form regarding process of Preservice implementation in Sindh Province

Exchange of information on logistics, student selection, sites and patient selection process

2. WITH UNIVERSITY ADMINISTRATION

Orientation meeting with Vice Chancellor, Registrar and Director Academics and Director IT. Information of objectives of evaluation and schedule of visiting team

Rescheduling students regular teaching program for 5 days during evaluation

Second meeting on ….. to finalize the arrangements for visit. Meeting time with vice Chancellor was finalized, accommodation for team members, transport of patients and other logistics agreed

EVALUATION:

Preparatory Meeting on 16th October:-

A preparatory meeting was held in Pediatric department on 16th October, 2012.

It was attended by

Dr Suzzane Farhoud : Regional Advisor CAH, WHO-EMRO & Team leader

Dr. Abdul Rehman Pirzado: MnCAH Officer, WHO, Sindh, Pakistan & lead consultant preservice Sindh.

Prof Salma sheikh welcomed the team and faculty members, after introduction the process was explained to all. All the sites for evaluation were visited followed by tea break. Later the evaluation team members including LUMHS faculty members were given presentation by Dr. Suzanne to explain the daily activities and different forms to be used during the process.

The Different groups were as follows:

Schedule of the IMCI Paediatric Teaching
LUMHS Faculty of Medicine

Sunday 16 October 2011

08:00 – 08:30 Travel to Jamshoro

Meeting with the dean

Meeting with the clinical instructors

Preparatory work for the evaluation

Checking the sites of evaluation (hall for MCQs, rooms for FGD, Sites for observation of case management, Etc.

Requirements: data show and screen

Monday 17 October 2011

Time	Group I	GROUP II	GROUP III	GROUP IV
08:20 – 08:40	Travel to Jamshoro, while Dr Pieche will go to Hyderabad hospital to assist in selection of patients and join the team before 11:00 am .Dr Imran, Dr Ahmad and Dr Saleem will stay with Dr Pieche for cases selection & training			
08:40 – 09:00	Preparation for the sessions			
9:00 – 10:45	Observation of IMCI clinical OPD teaching session conducted by university teaching staff (1) *Evaluators:* *Prof. Massoud,* *Dr Majid Latif* *Observer:* *Prof. Abbassi*	FDG with students (1) Visit to library *Evaluators:* *Dr Shadoul, Dr Suzanne* *Dr Abdul RehmanPirzado* *Observer:* *Dr. Akber Siyal*	Observation of IMCI practical teaching session conducted by university teaching staff (1) *Evaluators:* *Prof. Omar, Prof. Salma Shaikh* *Observer:* *Dr. Akber Nizamani*	*Observation of IMCI theoretical teaching session* *Prof. Karrar* *Dr Akram Shaikh*
10:45 – 11:00	Coffee break (Meeting with vice chancellor at his office)			
11:00 – 14:00	Assessment of student clinical skills: Observation of case management (3 students= 3 patients) *Prof. Massoud* *Dr Majid Latif*	Assessment of student clinical skills: Observation of case management (3 students= 3 patients) *Prof. Omar,* *Prof. Salma Shaikh*	Assessment of student clinical skills: Observation of case management (3 students = 3 patients) *Prof. Karrar,* *Prof. Akram Shaikh*	Assessment of student clinical skills: Observation of case management (3 students = 3 patients) *Dr Suzanne* *Dr Shadoul*
14:00 – 16:00	Break and Back to Hyderabad			
16:00 – 20:00	Review of completed case management forms and data entry *(The rest of the group). Observers: Prof. Abbassi, Dr Siyali, Dr Nizamani* Data entry (cont.) the whole group then split into two groups		Discussion and summary of the findings of the first day *(Dr Suzanne, Dr Shadoul, Prof. Karrar, Dr Pirzado, Prof. Salma)* *Presentation to the whole group*	

Tuesday 18 October 2011

Time	Group I	GROUP II	GROUP III	GROUP IV
08:20 – 08:45	Travel to Jamshoro			
09.00 – 10:45	Observation of IMCI clinical teaching session conducted by a medical officer (2) *Dr Shadoul* *Dr Suzanne Farhoud* *Dr Abdul Rehman Pirzado* *Observer:* *Dr. Akber Siyal*	FDG with students (2) *Prof. Omar* *Prof. Salma Shaikh* *Observer:* *Dr. Akber Nizamani*	Observation of IMCI practical teaching session conducted by another university teaching staff (2) *Evaluators:* *Prof. Karrar, Dr Akram* *Observer:* *Prof. Abbassi*	
	MCQs with the 36 students: *Dr Pieche, Prof Massoud and Dr Majid*			
10:45 – 11:00	Coffee Break			
11:00 – 14:00	Assessment of student clinical skills: Observation of case management (3 students) *Prof. Massoud* *Dr Majid Latif*	Assessment of student clinical skills: Observation of case management (3 students) *Prof. Omar* *Prof. Salma Shaikh*	Assessment of student clinical skills: Observation of case management (3 students) *Prof. Karrar* *Dr Akram*	Assessment of student clinical skills: Observation of case management (3 students) *Suzanne and Shadoul*
14:00 – 16:00	Break and Back to Hyderabad			
16:00 – 20:00	Review of completed case management forms and data entry *(The rest of the group)* Data entry (cont.) the whole group then split into two groups		Discussion and summary of the findings of the second day *(Dr Suzanne, Dr Shadoul, Dr Majid, Prof. Karrar, Dr Akram)* *Presentation to the whole group*	

Wednesday 19 October 2011

Time	Group I	GROUP II	GROUP III	GROUP IV
08:20 -08:45	Travel to Jamshoro			
09:00 – 10:45	Observation of IMCI clinical teaching session conducted by a post graduate (3) *Prof. Karrar* *Dr Akram* *Observer:* *Dr. Akber Nizamani*	FDG with students (3) *Prof. Massoud* *Dr Majid Latif* *Observer:* *Prof. Abbassi*	Observation of IMCI practical teaching session conducted by another teaching staff (3) *Prof. Omar* *Prof. Salma* *Observer:* *Dr. Akber Siyal*	FGD with teachers who are teaching IMCI *Dr Shadoul* *Dr Suzanne* *Dr Pirzado*
10:45 – 11:00	Coffee Break			
11.00:– 14:00	Assessment of student clinical skills: Observation of case management (3 students) *Prof. Massoud,* *Dr Majid Latif*	Assessment of student clinical skills: Observation of case management (3 students) *Prof. Omar,* *Prof. Salma*	Assessment of student clinical skills: Observation of case management (3 students) *Prof. Karrar* *Dr Akram*	Assessment of student clinical skills: Observation of case management (3 students) *Dr Suzanne* *Dr Shadoul* *Dr Pirzado*
14:00 – 16:00	Break and Back to Hyderabad			
16:00 – 20:00	Review of completed case management forms and data entry *(The rest of thee group)* Data entry (cont.) the whole group then split into two groups		Discussion and summary of the findings of the third day *(Dr Suzanne, Dr Shadoul, Prof. Magdi, Prof. Massoud)* *Presentation to the whole group*	

Thursday 20 October 2011

Time	Group I	GROUP II	GROUP III	GROUP IV
08:00 – 09:00	Travel to Jamshoro			
09:00 – 14:00	Preparation of the tables & Finalization of the presentations			
14:00 - 16:00	Feedback meeting			

17th to 19th October 2011

Evaluation took place over 3 days

Objectives of Evaluation

- To assess whether IMNCI pre-service education improves students competencies in managing main children in outpatient settings before graduation
- To assess whether the quality of teaching has improved as a result of the IMNCI into pre-service.
- To use results in order to advocate for IMNCI pre-service education to ensure sustainability.
- To share results to enable strengthen positive strengths of teaching and to undertake corrective actions to address the gaps.

Methodology of Evaluation:

Observation of Theoretical Teaching Sessions:

Description:

- One theoretical teaching session was observed given by one teaching staff trained in IMNCI.
- Number of students: 98.
- Total duration: 45 minutes
- Power- point lecture with very good interaction with students.

Teaching methods used

- Lecture in a power point presentation, participatory approach and use of mothers' cards.
- The lecture is built on the IMNCI.

Strengths:

- Linking IMNCI teaching to the classical Pediatric teaching.
- Good interactive way to conduct a theoretical session.
- Good quality of slides.

Areas for strengthening:

- Linking referral according to IMNCI classification to the management plans at the hospital level.

Constraints identified by the teaching staff

- Attendance of students is not satisfactory.

Solutions suggested to address constraints:

- To stress on more rigorous registration of the attendance (computerized).

- More weight in the final score of students for continuous assessment (every Friday assessment).

Space of the teaching room: adequate

Observation of Practical Teaching Sessions:

Description of the sessions:

- Three practical teaching sessions given by 3 different teaching staff (83 students, 3 teaching staff and 4 coordinators) were observed.
- Duration: range from 40 minutes - 2 hours.
- One main teacher and coordinators (3 – 5) per session.
- Number of students (18 – 33 students per session)
- Space: adequate equipped with multi-media, air conditioned and wall charts.
- Has linked IMNCI to classical Pediatrics (DD of signs) and PHC care to referral care.
- Good interaction with students.

Procedures of the session: the following sequence.

- State objectives of the session (introduction of the session is not usually done).
- A demonstration on the subject is given by power point presentation.
- Wrapping-up of the session

Teaching methodologies used:

- A good variation of teaching methods is used
    - Photo or video demonstration (or both)
    - Group discussion with students using chart booklet.
    - Case scenarios (exercises) solved by students, supervised by coordinators
    - Photo exercises.
    - Drills

Teaching material/ supplies used:

Multi-media, chart booklet, photo booklet, case recording form and video.

Strengths:

- Variety of teaching methodologies
- Demonstrate the continuum of managing children from primary to referral care.
- Linking IMNCI to classical Pediatric Teaching.
- Good interactive way of teaching
- Excellent space for teaching.
- Prepare students to clinical practice.

Observation of Clinical Teaching Sessions:

Description of the session

- Three clinical teaching sessions run by 3 different teaching staff and coordinators and attended by 74 students were observed.
- Number of students (14 – 32 students).
- 2 -hour session, each run by one teaching staff and 4 coordinators.
- All trained in IMNCI and facilitation techniques.

Procedures of the session:

- First, in a plenary session (theater arrangement)
    - presentation of objectives, then
    - power point presentation and wall chart demonstration,
    - Followed by photos presentation,
    - Then, clinical demonstration.
- Second, Students are divided into 4 groups,
    - The clinical coordinator repeat the wall chart demonstration
    - clinical practice (1:1 - 1:3 patient: student ratio), well monitored in most of the situations by the clinical coordinator
    - Students were able to see 1 – 3 patients
    - Individual feedback
    - Case presentation in some situations
- Third, plenary session:
    - wrap-up
- Teachers were linking IMNCI to classical teaching

Teaching methodologies used:

Diversity of teaching methodologies: power point presentation, wall chart demonstration, use of chart booklet, photo demonstration, use of recording form, clinical demonstration, participatory approach, group discussion, clinical practice, individual feedback and in some situations case presentation.

Teaching materials used:

Multi-media, wall charts, chart booklet, case book, recording form, weighing scale, Torch lamp, thermometer, Nebulizer, ORT supplies, cups, spoons, tongue depressors, measuring board, vaccination card, Vaccines for demonstration.

Strengths:

- Good set up of OPD.
- Use of clinical coordinators solved the problem of staff : student ratio at OPD teaching and contributes to the institutionalization of the IMNCI teaching
- Good number of patients.
- Smooth and clear patient flow at the OPD.
- Use of variety of teaching methodologies.

- In reality, reasonable ratio of staff: students 1: 13 – 15.

FGD with Students:

Description

- 77 students were interviewed in 3 Focus group discussions

OPINIONS OF STUDENTS:

1. What is IMNCI?

Students know very well the IMNCI strategy, its rationale and objectives.

2. What is good about IMNCI?

- IMNCI is a simple, well structured, comprehensive strategy.
- It provides a holistic approach for child management that allows early detection of disease and early referral of severe cases. This will contribute to reduction of child mortality.
- It helps good management of children at PHC level and at facilities with limited resources
- IMNCI has built students' confidence in managing children and they feel comfortable to apply it.
- It has improved their skills in counseling and treating the children.
- IMNCI prepares students to work in the field and face real life situation.
- It has improved the communication skills of students, their behavior towards mothers and strengthened their relation with the faculty.
- Students appreciated the variation of teaching methods (lectures, demonstration, practice, self management, case recording, case presentation, feedback, video sessions, photographs and case scenarios).
- This variety enhances teaching. Most useful are video and supervised clinical practice.
- Useful even if they will work abroad.
- Materials are available and affordable.
- There is no inconsistency between IMNCI guidelines and other pediatric teaching materials.
- The supervised practice is helping in improving skills.

3. What you don't like about IMNCI

- IMNCI is only useful for developing countries and will not be useful if they will work abroad.
- Fever box is confusing.
- IMNCI Guidelines are limited only to children less than 5 years and a limited number of child health conditions.
- Immunization is not covering optional vaccines given by private sector.
- Teaching of "counselling the mother" requires more emphasis.
- Staff: student ratio (1:13) is not enabling obtaining maximum benefit from this good methodology.

- There is some inconsistency between the IMNCI teaching materials and other pediatric teaching materials (breastfeeding, ARI and Fever).

4. How is IMNCI teaching different from teaching of other pediatric topics:

- Other subjects require more study and less practice, while IMNCI is the opposite.
- IMNCI teaching is using a wide variety of teaching methods where it is not the same for other subjects.

5. Suggestions by students

- Night shifts provide an excellent opportunity for more exposure to patients and a supervised practice with a better staff: student ratio.
- Teaching of IMNCI approach should start early since the first year.
- IMNCI Community component should be strengthened so that the IMNCI is completely and fully implemented.
- Students need to be updated on the new developments in IMNCI.
- Refresher courses of teachers to be able to introduce the updated materials and content of IMNCI into teaching.

FGD with Teachers:

- 20 teaching staff and clinical coordinators, all trained in IMNCI case management and facilitation skills and involved in IMNCI teaching, were interviewed.
- There is a general acceptance of IMNCI strategy as the approach for managing children at PHC.
- IMNCI has an added value in:
  - Improving teaching skills.
  - Improving teaching methodologies that have improved students' attendance.
  - Exposed teaching staff to new skills and knowledge (counseling, breastfeeding techniques)
- The department uses different teaching methodologies and the available IMNCI teaching materials are innovative and useful.
- Teaching is designed to demonstrate the links between management at PHC by IMNCI and management at hospital level.
- Monitoring the teaching quality considers the feedback by students.
- Monitoring student's assessment every week by case scenarios.
- Introduction of IMNCI into pediatric teaching has encouraged other departments to introduce public health approaches (ENCC).
- IMNCI teaching methodology has been adopted to teach other pediatric topics.

Visit to Pre service Library:

- Library established in October 2011.
- Materials: IMNCI modules, handbook, CMAM , SAM and other pediatric reference materials
- Video and audio-visual materials are available
- Students attend regularly (as per the register).

- It is Open everyday with one staff as a coordinator.
- "Assess and classify child age 2 months up to 5 years" module is the most frequently used material by the student.

Conclusion:

Good initiative to be sustained and expanded.

Conclusions and Recommendations

Conclusions:

- There is a strong supportive environment at the department for IMNCI pre-service education.
- Many actions were taken to ensure sustainability of this approach of teaching.
- Community medicine department has its own task force and teaches the IMNCI clinical guidelines.
- Focus of IMNCI teaching in the university is on the IMNCI clinical component with minimum attention to the health system and community components which will hamper the overall objective of improving quality of health services and thus reducing mortality and morbidity of children.

Recommendations:

- Documenting and sharing the experience of IMNCI teaching in LUMHS at all levels (international, national and regional). This will have an added value to sustain the supportive environment and to contribute to the universities efforts for accreditation.
- More interaction and establishment of a joint task force between pediatric and community medicine department to plan for, implement and monitor teaching of the three IMNCI components: the clinical guidelines by the paediatric department and the system and community components by the community medicine department. This will ensure complementarity between the two departments.

Conclusions:

- The mechanism followed to design the IMNCI teaching into the paediatric curriculum enhanced the quality of teaching:

  Analysis of the situation → Planning and design → Pilot implementation

  → Corrective actions → Current Teaching design

Recommendations:

- Continue following the same mechanism by using the results of the evaluation to further improve the current teaching design.

Conclusions:

- The utilization of the medical coordinators enforced the teaching team and improved the staff to student ratio. In some sessions they were not fully used to get the maximum benefit of their presence.

Recommendations:

- Clearly indicate the role and tasks of the medical coordinators in each session in the documents of the department so as to use them fully during the sessions particularly during the practical session.

Conclusions:

- A good variation of teaching methodologies is used: theoretical, practical and clinical teaching sessions.
- The practical teaching sessions are more theoretical in most situation and do not provide a real practical component (practice of some skills by the students).
- The current design of the clinical sessions does not allow maximum time for clinical practice (theoretical component takes half of its time).

General Recommendation:

Consider using the "teaching sessions" module of the IMNCI pre-service education package to conduct different types of sessions, particularly "preparation of the session".

Practical Teaching sessions:

- Should be designed with the objective of paving the way to the clinical sessions.
  - One practical teaching session/ week (2 1/2 hours each) to be dedicated to the IMNCI teaching.
  - The session can address one – two boxes of IMNCI clinical guidelines (according to the required duration for each), that will be the subject of the OPD sessions during this week.
- Consider using the interactive adapted IMNCI e-lecture developed by WHO for the theoretical component of the session that provides the theoretical background, video and photo demonstrations, enforced by additional linking to classical pediatric.
- Consider using the "teaching session" module of the WHO IMNCI pre-service education package to design the practical teaching sessions, particularly the second part of the session (practical component).
- The practical component of the session would be more useful if students work in small groups guided by the medical coordinators.

Clinical teaching sessions:

- Use to the maximum the opportunity of having two OPD sessions per week (2 hours each) to provide all possible chances to the students to be exposed to the maximum number of patients to better acquire skills.
- As possible, replace the theater arrangement of the plenary session where the clinical demonstration takes place with a U-shape arrangement (as convenient).
- Consider equipping the room with a white screen and good lightening.
- Disregard the theoretical component of the OPD session (that will be addressed by the practical teaching session). Focus to be given to the wall chart and clinical demonstrations and the rest of time to be dedicated for practice by students in small groups.

- Case presentation by students should be standardized, preferably in the small groups and in presence of patients.
- Use the opportunity to share infrequently seen signs with others.
- The session of wrap-up should be used to share with the whole group the interesting experiences of the 4 sub-groups, in presence of patients, in addition to summarizing the session.

<u>Clinical guidelines:</u>

- Fever box
- Long duration of cough and fever (classification)
- Problems in palmer pallor detection

Assessment of Student's knowledge and skills:

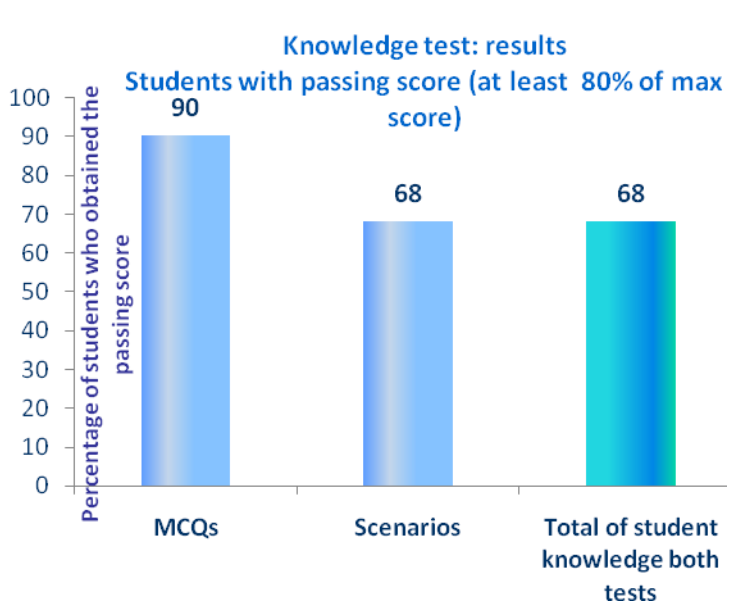
Methodology for Knowledge Test:

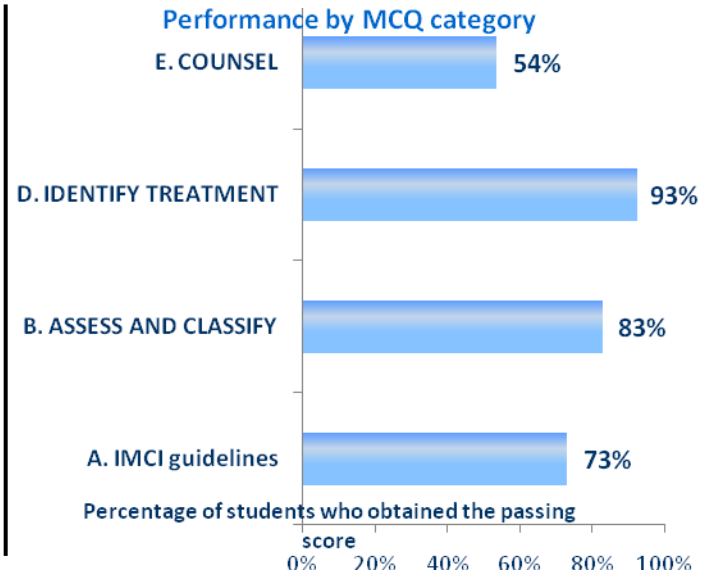
- 41 students selected from the 112 of the rotation batch
- 38 MCQs and 3 case scenarios in max 90 minutes
- Use of case recording form and access to IMCI chart booklet for each student during the test

Comprehensive MCQ test + case scenarios

A. IMCI guidelines (2 MCQs)
B. Assess and classify (30 MCQs)
C. Identify treatment (5 MCQs)
D. Counsel: when to return (1 MCQs)

- Time perceived to be adequate (73.2% of students)
- Test perceived by 100% students to be of average difficulty or easy





Conclusions:

- Test with good discrimination level
- Overall good performance
- Familiarity with the chart booklet and case recording form
- More difficulty in: knowledge application (case scenarios)

Clinical Skill Test:

Clinical Skill (Method-1)

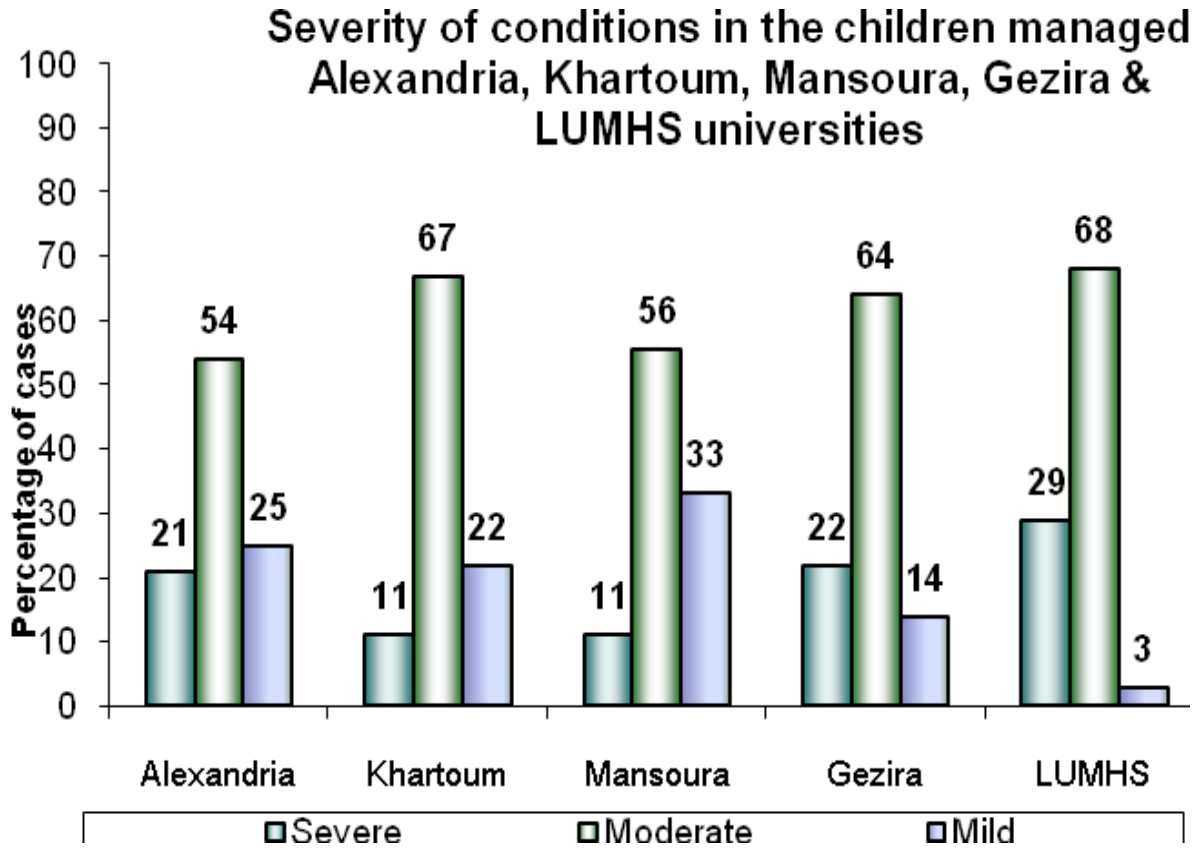
- Observation of management of sick children by students
- 38 students randomly selected from the 112 of the last rotation batch
- 1 clinical exposure per student
- Including assessment & classification

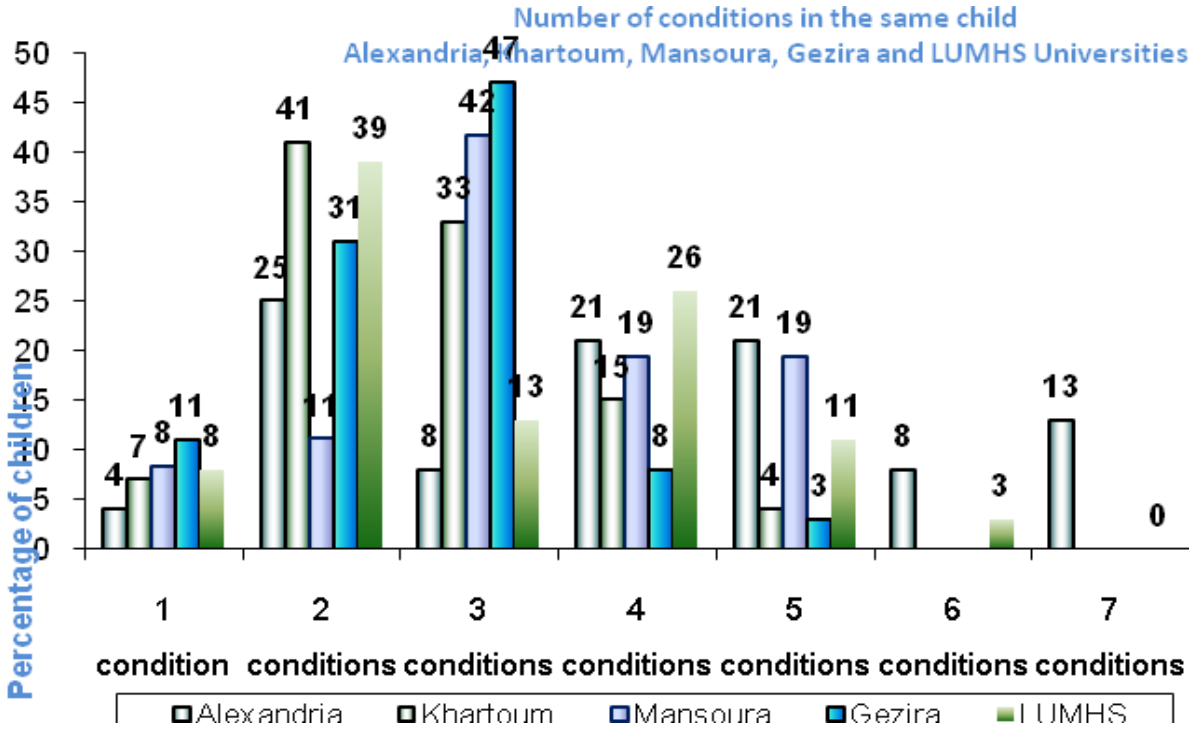
Clinical Skill (Method-2)

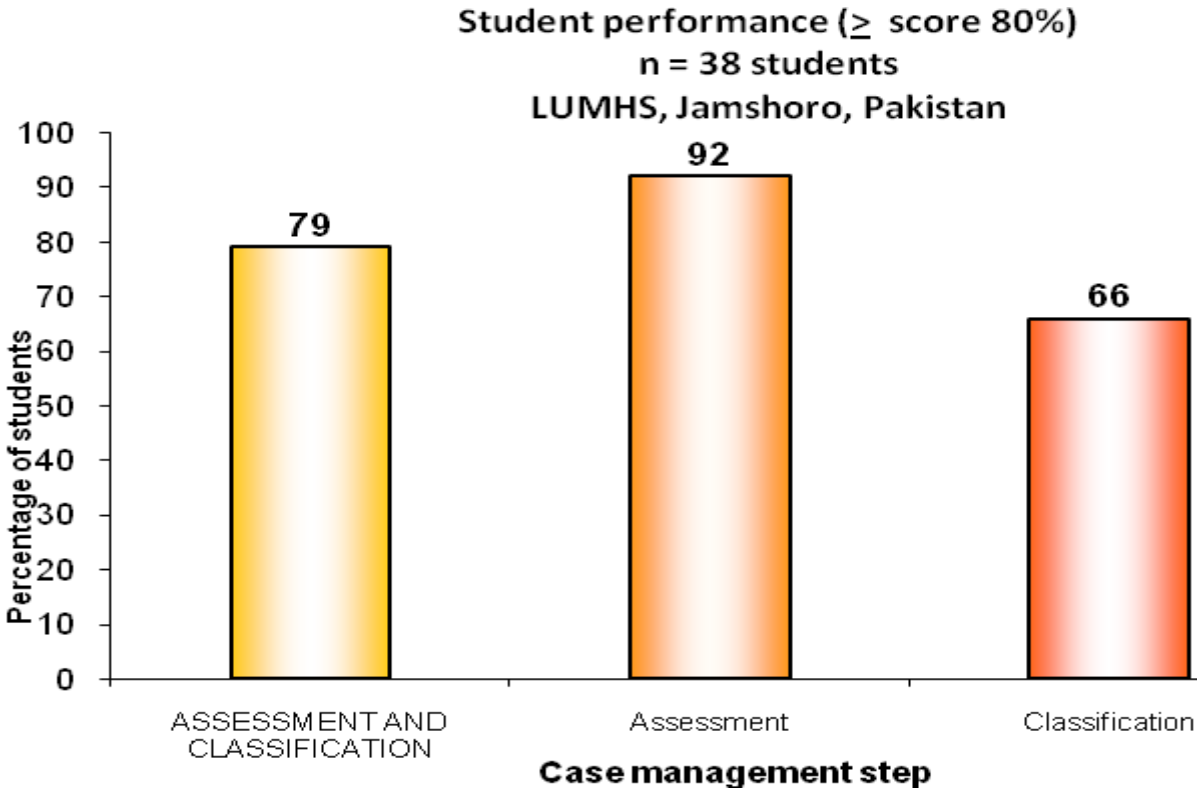
- Each clinical task to be performed for each "condition" given a score:
  - Whether task performed
  - How performed
  - Whether student findings agree with evaluator's
- Students given:
  - "IMCI case recording form"
  - IMCI chart booklet

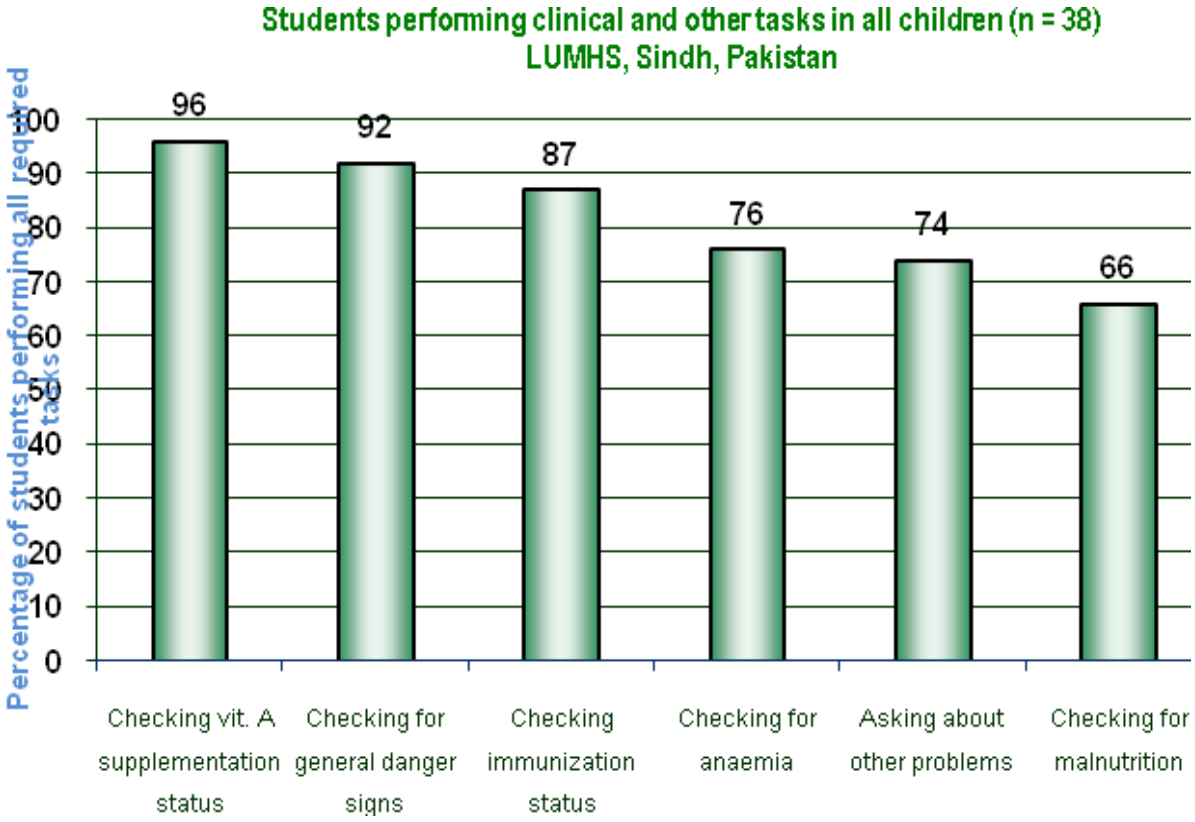
Characteristics of clinical exposures

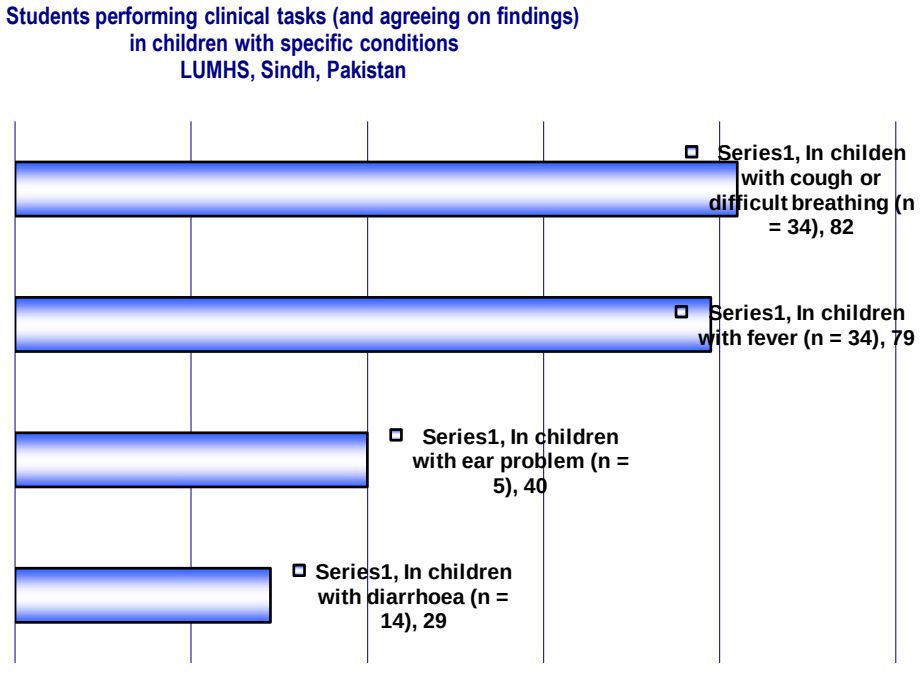
- Severity of cases
- No. of conditions / problems per child




Number of conditions in the same child
Alexandria, Khartoum, Mansoura, Gezira and LUMHS Universities
Percentage of children
50
45
40
35
30
25
20
15
10
5
0
4
7
8
11
8
25
41
11
31
39
8
33
42
47
13
21
15
19
8
26
21
4
19
3
11
8
3
13
0
1 condition
2 conditions
3 conditions
4 conditions
5 conditions
6 conditions
7 conditions
Alexandria
Khartoum
Mansoura
Gezira
LUMHS


Student performance (≥ score 80%)
n = 38 students
LUMHS, Jamshoro, Pakistan
Percentage of students
100
90
80
70
60
50
40
30
20
10
0
79
92
66
ASSESSMENT AND CLASSIFICATION
Assessment
Classification
Case management step


Students performing clinical and other tasks in all children (n = 38)
LUMHS, Sindh, Pakistan
Percentage of students performing all required tasks
100
90
80
70
60
50
40
30
20
10
0
96
92
87
76
74
66
Checking vit. A supplementation status
Checking for general danger signs
Checking immunization status
Checking for anaemia
Asking about other problems
Checking for malnutrition


Students performing clinical tasks (and agreeing on findings)
in children with specific conditions
LUMHS, Sindh, Pakistan
Series1, In childen with cough or difficult breathing (n = 34), 82
Series1, In children with fever (n = 34), 79
Series1, In children with ear problem (n = 5), 40
Series1, In children with diarrhoea (n = 14), 29
Percentage of students performing all required clinical tasks

Debriefing meeting was attended by faculty of pediatrics, OBGYN and community medicine. Director academics LUMHS, and Dean Surgery & Allied, Director postgraduate

Dr Shadoul, Dr Sumaia and Dr Pirzado from WHO along with team members

After the presentation s by Dr Suzanne and Dr Sergio, certificates were given by Dr Suzanne to faculty members

Post Evaluation Presentation

On 21st October2011 the evaluation team was invited as guest of honor to yearly pediatric symposium in hotel Indus. Where Dr. Suzanne presented the results to all HODs of pediatrics from all over Pakistan.

The team was decorated with traditional gifts and university shields by Vice chancellor, and then they left for Karachi