Education

PN-01

Transforming Biomedical Science Programs Through Accreditation

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ABSTRACT

The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) is committed to being the premier agency for accreditation and approval of educational programs in the clinical laboratory sciences. NAACLS accredits and approves over 600 programs in nine different clinical laboratory professions. With standards that foster education innovation and emphasize program and student outcomes, NAACLS is on the verge of a transformational milestone to create a global community of clinical laboratory programs. This community will be united under an accreditation umbrella that has the vision that medical laboratories will preferentially seek graduates of NAACLS accredited programs to assure quality, value and innovation for healthcare consumers. The presentation will outline the value of a global accreditation community to stakeholders worldwide through processes that are flexible, foster diversity of educational strategies, and utilize outcome assessments to create an evidence-based culture. The presentation will conclude with a demonstration of an NAACLS program accreditation process

NAACLS

National Accrediting Agency for Clinical Laboratory Sciences

naacls.org

Value Statement:

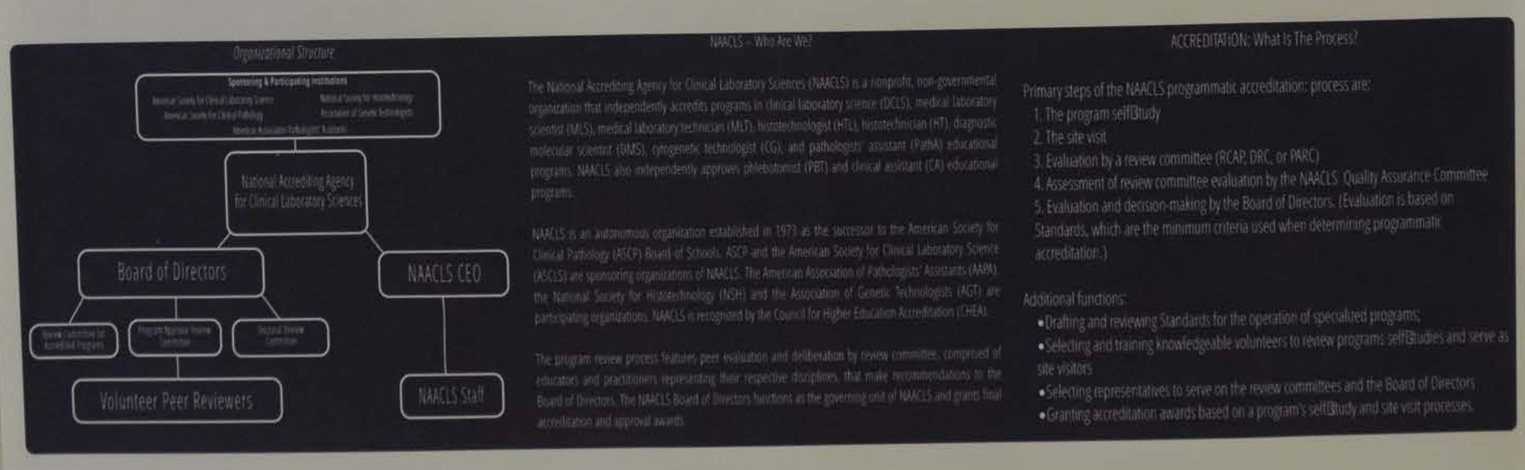
Better Healthcare through Better Graduates

Maximizing clinical laboratory science services locally through competent program graduates

Linking a diversified community of clinical laboratory educator peers

Stimulating excellence and improving clinical laboratory science education through established criteria and sharing of best practices

Forging opportunities for global laboratory practice and career development



BENEFITS OF ACCREDITATION: Why Choose NAACLS?

Accreditation is a process of external peer review in which an agency grants public recognition to a program of study or an institution that meets established qualifications and educational standards. Programs that participate in the NAACLS programmatic accreditation process culminate in an associate's degree or higher upon completion. Participation in the accreditation process is voluntary since there is no legal requirement for specialized programs and institutions to participate.

Accreditation, though a voluntary process, is valuable. The benefits include, but are not limited to, the following.

1. Through a peer review process that includes a Self-Study Review and Site Visit, identifies for the public specialized degree and certificate programs that meet established standards of educational quality.
2. Stimulates improvement of educational programs by involving faculty and staff in ongoing self-evaluation, research and planning.
3. Promotes a better understanding of the goals of professional education.
4. Provides reasonable assurance that practitioners meet minimum educational standards upon entry into the profession.
5. Assists specialized programs in achieving their unique objectives.

Education

PN-02

Video-assisted laboratory teaching

A way to enhance learning, save time in laboratory and increase variation in teaching

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Introduction

Laboratory teaching is an essential part of medical laboratory technology education. Practical skills are important together with theoretical knowledge of analysis principles, clinical relevance, quality standards and technology. Students spend limited time together with their teachers, and it is important to optimize the utilization of this time to ensure maximal learning outcomes. It is also important to offer a variety in teaching and learning methods. Access to video capture tools and publication channels like YouTube and learning management systems (LMS) facilitates publishing of videos to the students. The aim of the project was to investigate whether use of videos in preparation for laboratory exercise enhances learning and increases efficiency in conducting laboratory teaching.

Video introduction to laboratory teaching

Materials and methods

We prepared introductory videos for eight sessions in the laboratory, five for first-year and three for second-year students. These were presented on YouTube and LMS "It's learning". Students were told to watch the videos before the laboratory session.
The eight sessions were evaluated by the students in six questionnaires. The average response rate was 55%. In yes / no questions, the average percentage of all surveys were calculated. In open questions statements were grouped and ranked by frequency.
The project was carried out in the period 2013—2016.

Video pipetting techniques

Results

84% of the students had watched the video prior to the lab sessions.

14 % of the students had technical difficulties with playing the video, half of them solved the problems themselves. Only a few reported technical difficulties with playing the video on their second session.

80% of the students partly or fully agreed to that they learned more and were better prepared for the training session when they had watched the video in advance, compared to exclusively training in the laboratory.

88 % of the students wanted preparatory videos for further laboratory training.

Statements from the questionnaire, ranged by prevalence

- Videos enhanced preparation for laboratory training
- Videos prior to lab session yielded more time for laboratory activities
- When using videos, you can pause, take notes and repeat
- Videos gave a more thorough explanation, providing better understanding
- The videos should have been more comprehensive
- It was nice to get explanation by sound and picture in stead of written instructions
- Several short videos are better than one long video

Results from one of the questionnaire

Conclusion

Videos in preparation for laboratory teaching were considered to enhance learning, save time in laboratory and increase variation in teaching. We find it desirable to proceed with video-assisted laboratory teaching.

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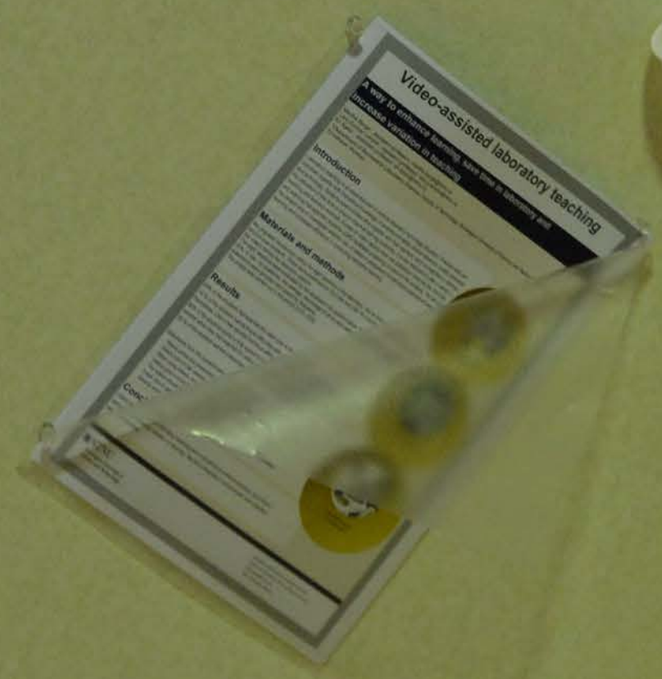

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Education

PN-03

The frequency and clinical characteristics of venipuncture blood collection-induced complex regional pain syndrome (CRPS)

The important points of venipuncture blood collection

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Introduction

Venipuncture blood collection, the most frequency performed invasive medical procedure, is usually benign. Generally it produces only mild discomfort. However, it is also well-known that the medical practice is one of the most frequency causes of complex regional pain syndromes (CRPS, formerly reflex sympathetic dystrophy and causalgia).

Table.1 The incident rate of venipuncture blood collection-induced clinical conditions

Vasovagal reflex	0.7 %
Subcutaneous hemorrhage	0.2 %
CRPS	0.01 %

Japanese Red Corss Society, 2001

Object

To investigate the frequency and clinical characteristics of venipuncture blood collection-induced CRPS in our hospital.

Patients and Methods

Total 253,681 patients who underwent venipuncture blood collection from 2011 to 2014 in our hospital were investigated. We investigated the frequency and clinical characteristics of venipuncture-induced CRPS using laser-Doppler flowmetry. Moreover, we also investigated the effect of anatomical or technical education to lead a decrease in the incidence of CRPS.

Table 2 Clinical diagnostic criteria for CRPS

- Must report at least one symptom in 3 of the 4 following categories
- Must display at least one sign at time of evaluation in 2 or more of the following categories

1. Positive sensory abnormalities: spontaneous pain, hyperalgesia
2. Vascular abnormalities: vasodilatation, vasoconstriction, skin color changes, skin temperature asymmetries
3. Edema, Sweating abnormalities: swelling, hyperhidrosis, hypohidorosis
4. Motor or tropic changes: motor weakness, tremor, dystonia, skin atrophy, coordination deficits, nail or hair changes, joint stiffness, soft tissue change

IASP 2005, Budapest Criteria

CRPS can be classified type 1 or type 2.

Type 1 formerly known as reflex sympathetic dystrophy (RSD). Majority of patients who diagnosed CRPS have this type.

Type 2 formerly known as causalgia. In this case, patients have nerve damage whereas patients of type 1 don't have. In addition, this type tends to be more painful. The onset of this type is from several days to 2 months after venipuncture blood collection, so it is difficult to diagnose and give treatments in early stage.

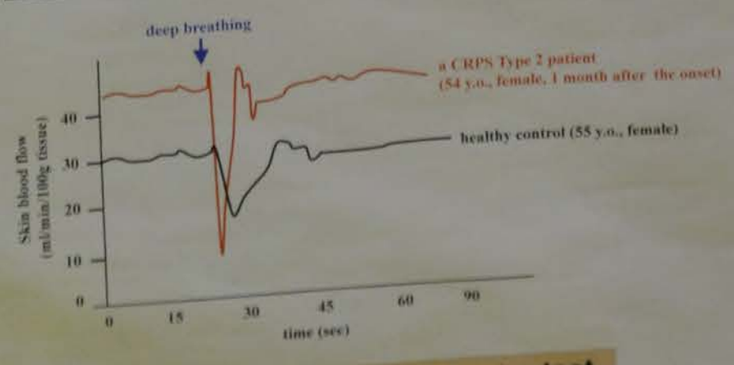

Fig.1 laser-Doppler flowmetry test

Results and Discussion

1) Although there is no diagnostic gold standard, careful clinical evaluation and additional test procedures should lead to an adequate diagnosis of CRPS. However, venipuncture-induced neuropathic pain is hard to recognize at an early stage. As the sympathetic nervous system plays a key role in maintaining pain and autonomic dysfunction in the affected extremity, laser-Doppler flowmetry may be one of the most useful tool to lead early and adequate diagnosis.

2) Although the incident rate of venipuncture blood collection-induced CRPS in our hospital is 0.01%, we could lead to reduce it by 0.0067% (17/253,681 patients) after dissemination of anatomical and technical education.

3) CRPS typically developed from immediately to 2 weeks after venipuncture blood collection-induced injury, but the pain is out of production to the severity of the initial injury.

4) Treatment for CRPS was most effective when started early. In such cases, improvement and even remission were possible.

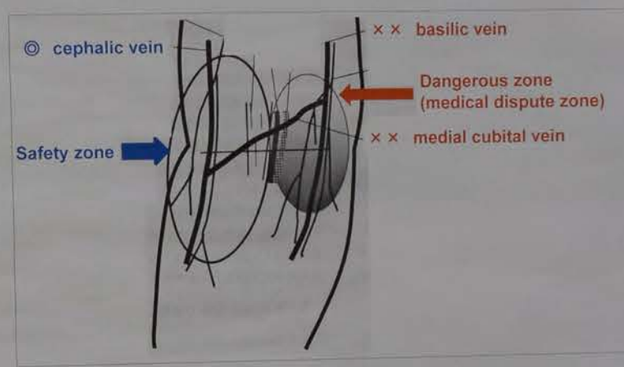

Fig.2 Anatomical education points

Table 3 Choice of gauge

Outer diameter (mm)	Gauge	Hub color
0.80	21	Deep green
0.70	22	Black
0.60	23	Deep blue
0.55	24	Medium purple
0.50	25	Orange

best

Conclusions

1) We should use laser-Doppler flowmetry to lead early and adequate CRPS diagnosis.

2) We should disseminate the anatomical and technical education to reduce the incident rate of venipuncture blood collection-induced CRPS.

Education

PN-04

THE EDUCATION
CASTS

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BIOMEDICAL LABORATORY SCIENCE PR

Introduction

Eksperimental

Results and discussion

Conclusion and perspective

University College SJÆLLAND

Education

PN-04

THE EDUCATIONEL USE OF POD-CASTS

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Introduction

- Podcasts are one of the many new internet based technologies that has emerged in the last 10 years. The first podcasts were aired in 2004. Primarily by conventional broadcasters but soon anyone made podcasts on a huge variety of subjects [1]. Podcasts are monological (instructional) method along with video and article databases [2]. Monological teaching is where the teacher is the expert and the students are receiving knowledge. At University College Zealand (UCSJ) we have students who are attending ordinary classes and a minor part (app. 15%) of them is e-students who only attend classes once a week on average.
- Using podcasts as a teaching tool addresses all the students but of course especially the ones that easiest acquire learning auditory. At UCSJ we started the production as a supplement especially for the e-students, but we quickly learned that many students at the ordinary education programme could benefit from this auditory supplement. The podcasts include all areas of the educational programme, ranging from ethics and statistics to molecular biology.

Eksperimental

- All podcast were made using the Audacity software [3]. This software package was also used for the editing and creation of MP3 files. Podcasts can be accessed directly from the website, they can be downloaded, or they can be subscribed to as a RSS-feed or via Android.

Results and discussion

- After two months we made a survey amongst our students to evaluate how much the podcasts are used and how helpful they are in the learning process. We asked our students if they had listened to one or more podcasts. 54 % answered that they had listened to a podcast, and 67 % said they would listen to it in the future. We also asked our students how useful they found the podcasts to be. 21 % said it was useful, 31 % said it was interesting and 12 % said it was very interesting. Only 11 % thought it did not help in their learning process.
- The format found to be best is usually one with two presenters. One is the "expert" and the other is the "interviewer". This combined with the fact that we do not have a manuscript but rather a list of cues gives a very dynamic and. "live" podcast. A link to the podcasts (one in english "Why is English the launguge of Science") can be found at http://www.spreaker.com/user/bioradio

Conclusion and perspective

- Podcast is an excellent tool to introduce students to a new subject as well as a tool for repetition. It is readily available and it is a learning tool that the student can access anywhere anytime.
- The next step that has been taken, is BioNews PodCast ,which is launced summer 2017. In these PodCast the lastest news regarding biomedical issues, are be diskussed http://www.spreaker.com/show/bio-radio-news (none in English, so far)

References.
[1] M. Abdous et al.Computers & Education.
[2] N. E. Pasgaard. Edidaktik; 2012-2015 http://www.edidaktik.dk/en/
[3] Audacity freeware download at: http://audacityteam.org/

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Education
PN-05

Master in Biomedical Laboratory Sciences, a new career opportunity in Sweden

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Background

In Sweden, the biomedical laboratory scientist receives after three years of academic studies a bachelor degree as well as a license in biomedical laboratory sciences (BLS). Since 1993 all students receives education in all laboratory disciplines in a single program. Since then the program has also been adapted according to the Bologna process. However, post bachelor education in biomedical laboratory sciences has not been neither formalized by the universities nor acknowledged by the clinical laboratories.

During recent years there has been an increasing demand for advanced studies within the laboratory specialties both from students and from the employers. Thus, "Methods in Medical Diagnostics – clinical laboratory medicine / imaging and functional diagnostics", a two year Master program which comprises 120 credits was started. The program consists of both an education in the research process (mandatory) as well as advanced studies in any of the laboratory disciplines. These studies include both theoretical and practical skills in close collaboration between the university and the clinical laboratories, and the students choose which laboratory discipline to specialize in. Together with optional courses the students design their Master program most suitable for themselves. Integrated learning can be achieved with a combination of studies and laboratory work. The program started in autumn of 2013 and since then 9 students has graduated. These students will hopefully be able to receive a new position within the Swedish health care system as "Specialists in biomedical laboratory sciences" and/or continue with PhD studies. Discussions are on-going at several other Swedish universities for starting a similar program.

Courses in Master Programme

Mandatory Courses Year 1	Mandatory Course Year 2
BLS- Research process, 15 Credits	BLS – Research overview and design, 15 credits
BLS – Perception Assessment in Workplace education, 7,5 credits	BLS – Degree project in Biomedical laboratory Sciences, 30 / 45 credits
BLS – Laboratory Medical Diagnostics, 7,5 credits	
BLS – Applied Laboratory Methodology, 15 credits	Optional courser in BLS or Medicine applicable to the chosen laboratory discipline, depending on length of Degree project, 0/15 credits
Optional courser in BLS or Medicine applicable to the chosen laboratory discipline, 15 credits	

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Employer perspective

One challenge we are facing today is to attract young people to the profession, and the possibility of further education, post bachelor, coupled to increased responsibility could be one solution. The employment bureau in Sweden predicts, both on short-term (5 years) and long-term (10 years), a shortage of biomedical laboratory scientists. There will be very little competition on existing positions in future, figure 1.

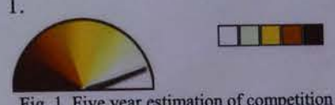

Fig. 1. Five year estimation of competition of positions for biomedical laboratory scientists. White= no competition of existing jobs, dark brown= strong competition of existing jobs. Chart is showing a shortage of staff for employment. Figure from Arbetsförmedlingen Sweden ;http://http://www.arbetsformedlingen.se/For-arbetssokande/Yrke-och-framtid/Yrkeskompassen.

Also, many older biomedical laboratory scientists, with a more specialized core competence, are near retirement, hence we will soon face a lack of skillful experts in the lab. The individual design of the master program enables the biomedical laboratory scientist to plan for an education that will be highly specific and for an BLS already employed, this could be done together with the laboratory supervisor.

Employee perspective

"After working 6 years in clinical pathology, I was approached by my laboratory manager to attend the master program. I have an interest in gross pathology, a skill that is much wanted in the lab because of the shortage of pathologists.
I found the combination of studies and practice at my own workplace a benefit that made it easer to continue working after the master program had ended."
Helena Johansson, specialist, biomedical laboratory scientist with a master in clinical laboratory medicine

Helena Johansson, Dep. of Laboratory medicine, Pathology. Örebro University Hospital, Photo: Kristin Lundström

Conclusion

A master program in clinical laboratory medicine provides a career opportunity for the professional society and is evidently needed to supply laboratories with specialized competence.

ÖREBRO UNIVERSITY
SCHOOL OF HEALTH SCIENCES

Region Örebro County
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Education
PN-06

Improving of Undergraduate and Graduate Study Programmes in Medical Laboratory Diagnostics in Republic of Croatia

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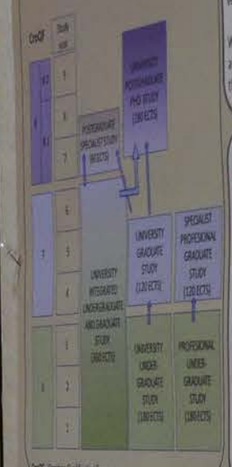
Scheme of higher education system in Croatia



Objectives

Medical laboratory science is a very important part of healthcare system and there is a need to train knowledgeable and skilled experts who can work in clinical laboratories and do research in industrial, public health, and medical laboratories, an advancement of medical laboratory diagnostics study programmes became very important.

Whereas a critical component of administering the bachelor and master study programs in laboratory medicine and biomedical laboratory science is the evaluation of its effectiveness the aim of this analysis is to determine if there is visible improvement in the laboratory skills and competences of our graduated students.

Introduction

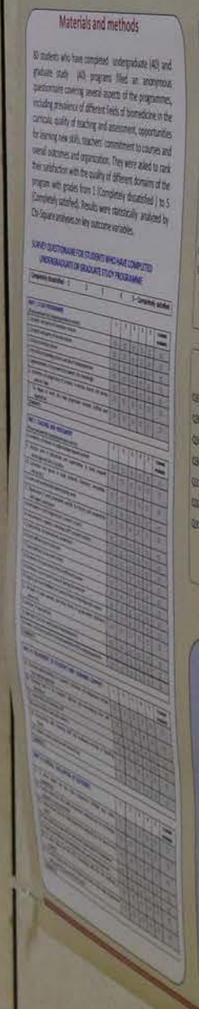
The Croatian higher education system is structured according to three cycles (undergraduate, graduate and postgraduate studies), in line with the guidelines of the Bologna Process.

Since Croatia also has a binary higher education system, this means that prospective students must choose between university studies (which cover all three cycles) and professional studies (which cover only the first and second cycles).

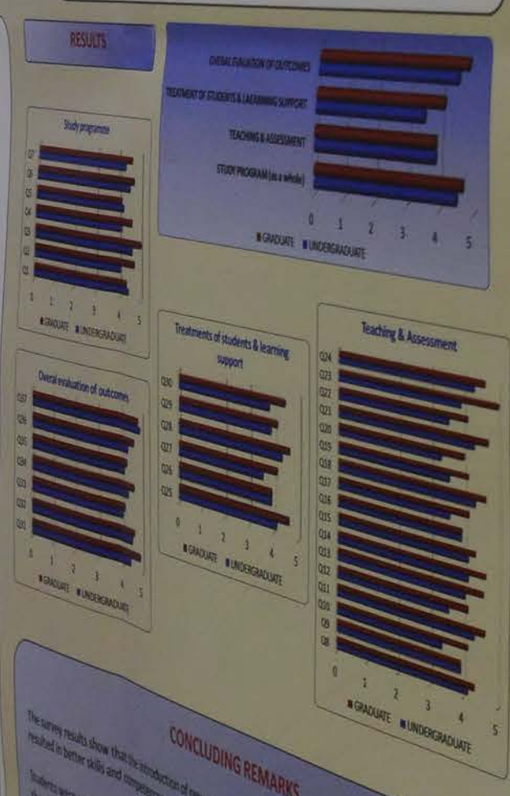
To prepare competent medical laboratory scientists with the necessary skills, attitudes, and professional integrity to become contributing professionals in the health care community at Osijek Faculty of Medicine bachelor and master university studies in Medical Laboratory Diagnostics were established six years ago.

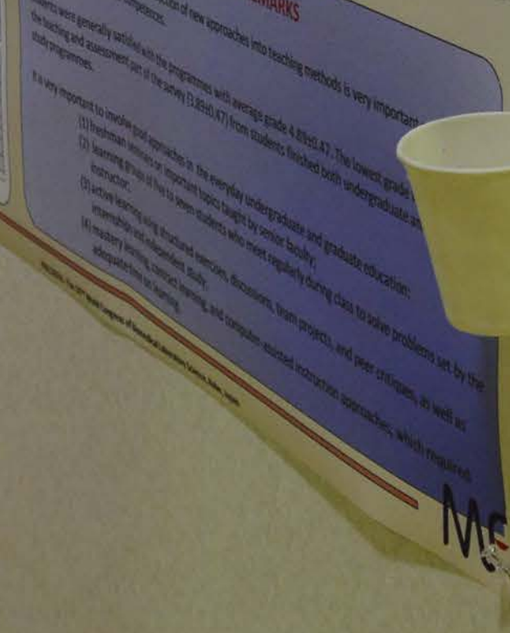
Into curriculums of novel study programmes have been involved e-courses, cooperative learning, student centred learning and job-shadowing system.

Materials and methods



RESULTS





CONCLUDING REMARKS

Education

PN-06

Improving of Undergraduate and Graduate Study Programmes in Medical Laboratory Diagnostics in Republic of Croatia

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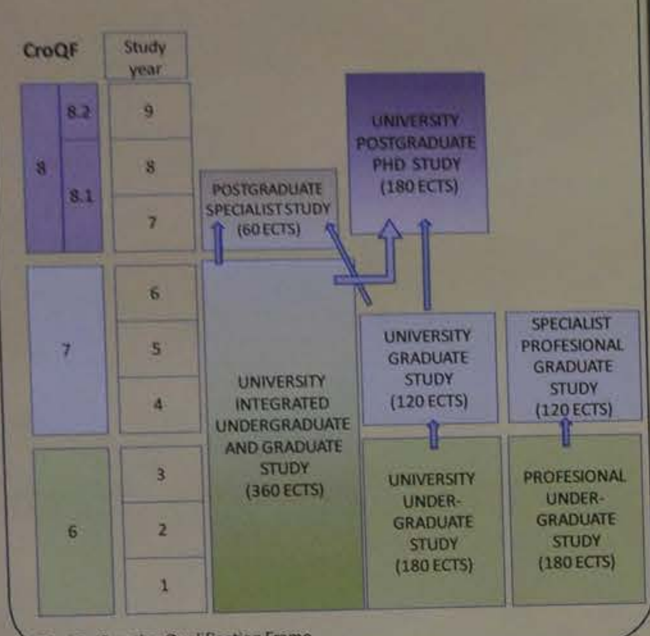

CroQF - Croatian Qualification Frame

Objectives

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Into curriculums of novel study programmes have been involved e-courses, cooperative learning, student centred learning and job-shadowing system.

Materials and methods

80 students who have completed undergraduate (40) and graduate study (40) programs filled an anonymous questionnaire covering several aspects of the programmes, including prevalence of different fields of biomedicine in the curricula, quality of teaching and assessment, opportunities for learning new skills, teachers' commitment to courses and overall outcomes and organization. They were asked to rank their satisfaction with the quality of different domains of the program with grades from 1 (Completely dissatisfied) to 5 (Completely satisfied). Results were statistically analyzed by Chi-Square analyses on key outcome variables.

SURVEY QUESTIONAIRE FOR STUDENTS WHO HAVE COMPLETED UNDERGRADUATE OR GRADUATE STUDY PROGRAMME

Completely dissatisfied - 1 | 2 | 3 | 4 | 5 - Completely satisfied

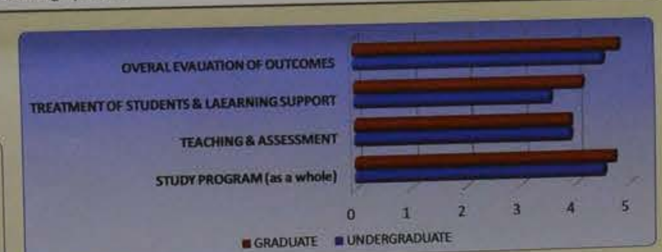
PART I: STUDY PROGRAMME (Please evaluate the study programme as whole)	1	2	3	4	5	I cannot evaluate
1. Contents and quality of mandatory courses	☐	☐	☐	☐	☐	☐
2. Contents and quality of elective courses	☐	☐	☐	☐	☐	☐
3. Choice of elective courses	☐	☐	☐	☐	☐	☐
4. Possibility of attending courses outside of study programme	☐	☐	☐	☐	☐	☐
5. Appropriateness of coursework to students' prior knowledge	☐	☐	☐	☐	☐	☐
6. Coherence and progression of contents in various courses and various years of study	☐	☐	☐	☐	☐	☐
7. The degree to which the study programme contents fulfilled your expectations	☐	☐	☐	☐	☐	☐
COMMENTS:						

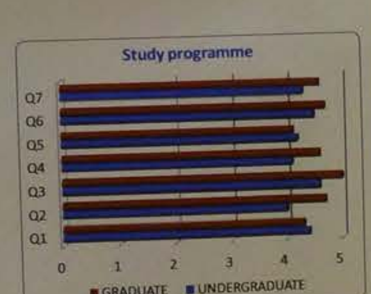
PART II: TEACHING AND ASSESSMENT (Please evaluate the study programme as whole)	1	2	3	4	5	I cannot evaluate
8. Usefulness of lectures for understanding required contents	☐	☐	☐	☐	☐	☐
9. Practical work in laboratories and opportunities to check acquired knowledge and skills in practice	☐	☐	☐	☐	☐	☐
10. Usefulness and quality of study materials (literature, compendia, internet etc.)	☐	☐	☐	☐	☐	☐
11. Course and workload distribution during week	☐	☐	☐	☐	☐	☐
12. Organisation of work placements outside the faculty and cooperation with expert practitioners	☐	☐	☐	☐	☐	☐
13. Participation in the fieldwork (incl. summer school)	☐	☐	☐	☐	☐	☐
14. Involvement of students in teaching staff's research projects	☐	☐	☐	☐	☐	☐
15. Opportunities for international cooperation	☐	☐	☐	☐	☐	☐
16. Clearly defined course outcomes	☐	☐	☐	☐	☐	☐
17. Clearly defined assessment criteria	☐	☐	☐	☐	☐	☐
18. Coherence of assessment criteria in different courses	☐	☐	☐	☐	☐	☐
19. Continuous assessment in courses during the semester	☐	☐	☐	☐	☐	☐
20. Regular and clear feedback on successfulness in learning and in exams	☐	☐	☐	☐	☐	☐
21. Schedule of exam periods and other forms of assessments (mid-term exams etc.)	☐	☐	☐	☐	☐	☐
22. Number of exam periods	☐	☐	☐	☐	☐	☐
23. Methods of assessment (exam implementation)	☐	☐	☐	☐	☐	☐
24. Overall satisfaction with the implementation of the study programme	☐	☐	☐	☐	☐	☐
COMMENTS:						

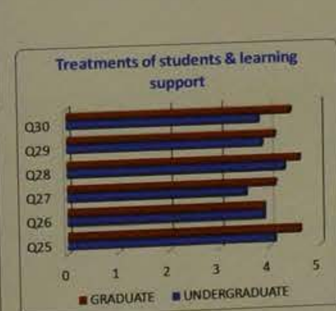
PART III: TREATMENT OF STUDENTS AND LEARNING SUPPORT	1	2	3	4	5	I cannot evaluate
25. Showing understanding for students' problems and obligations outside the study programme	☐	☐	☐	☐	☐	☐
26. Showing trust in the students' abilities and encouraging their self confidence	☐	☐	☐	☐	☐	☐
27. Accessibility of teaching staff	☐	☐	☐	☐	☐	☐
28. Accessibility of personal mentors	☐	☐	☐	☐	☐	☐
29. Consultation with teaching staff and assistance outside of teaching hours	☐	☐	☐	☐	☐	☐
30. Student career (employment) counselling						
COMMENTS:						

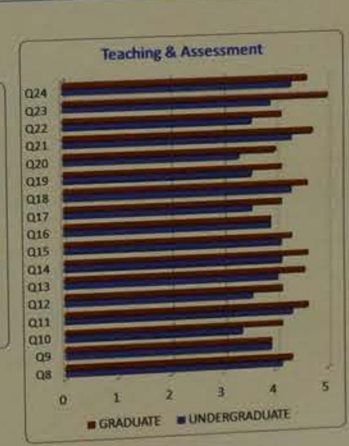
PART IV: OVERALL EVALUATION OF OUTCOMES	1	2	3	4	5	I cannot evaluate
31. To what extent has the study programme fulfilled your initial expectations?	☐	☐	☐	☐	☐	☐
32. To what extent has the study programme prepared you for continuing education in the same field?	☐	☐	☐	☐	☐	☐
33. To what extent has the study programme prepared you for work in the field?	☐	☐	☐	☐	☐	☐
34. How satisfied are you with employment opportunities for graduates?	☐	☐	☐	☐	☐	☐
35. Overall, how difficult and demanding was your study programme?	☐	☐	☐	☐	☐	☐
36. To what extent are the ECTS harmonized with the real workload in courses?	☐	☐	☐	☐	☐	☐
37. To what extent was the information you had on the study programme before enrolling accurate and useful?	☐	☐	☐	☐	☐	☐
COMMENTS:						

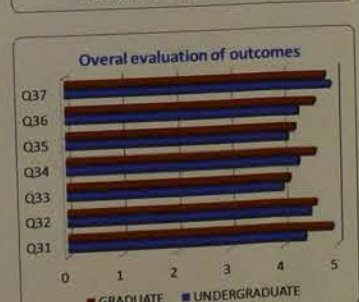
RESULTS











CONCLUDING REMARKS

The survey results show that the introduction of new approaches into teaching methods is very important and has resulted in better skills and competences.

Students were generally satisfied with the programmes with average grade 4.89±0.47. The lowest grade was given for the teaching and assessment part of the survey (3.89±0.47) from students finished both undergraduate and graduate study programmes.

It is very important to involve good approaches in the everyday undergraduate and graduate education:

(1) freshman seminars on important topics taught by senior faculty;
(2) learning groups of five to seven students who meet regularly during class to solve problems set by the instructor;
(3) active learning using structured exercises, discussions, team projects, and peer critiques, as well as internships and independent study;
(4) mastery learning, contract learning, and computer-assisted instruction approaches, which required adequate time on learning.

IFBLS2016 - The 32nd World Congress of Biomedical Laboratory Science, Kobe, Japan

fessional Development: Keeping Track of Activity

ton, Monica Fitzpatrick, Pauric Reilly, Margo Mitchell, Irene Regan
my of Clinical Science and Laboratory Medicine, Dublin, Ireland.,

ry Medicine developed its 1st Continuous
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essional development Programme designed
ts in Ireland .

PEP CPEP CPD

Drivers for Change

The advent of Statutory Registration of Medical Scientists with mandatory CPD under the Health and Social Care Professions Council (CORU) presents challenges for the Academy to meet its members needs and to retain membership. This combined with the ISO 15189 requirement for annual performance review prompted a review od the existing system and led to the development of an integrated 'on line' system for recording activities, reflective practice and production of reports for audit

Service to Members
- Meeting Development Needs
- Supporting Mandatory Regulation Requirement

Regulation
- Protection of Public
- Competence Assurance of Professionals

New Competencies
- From Points to Outcomes Measures
- Reflective Practice

Reports

Development Plan

CPD Record - Competencies

Reflective Practice

A-1 A-1

Education
PN-07

Education
PN-08

l Laboratory Sciences, a ortunity in Sweden

lsunde Larsson[1] and Christina Karlsson[2].
edicine and Health, Örebro University, SE-701 82 Örebro,

70182 Örebro, Sweden.

Employer perspective

One challenge we are facing today is to attract young people to the profession, and the possibility of further education, post bachelor, coupled to increased responsibility could be one solution. The employment bureau in Sweden predicts, both on short-term (5 years) and long-term (10 years), a shortage of biomedical laboratory scientists. There will be very little competition on existing positions in future, figure 1.

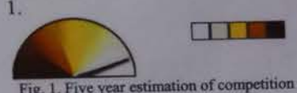


Fig. 1. Five year estimation of competition of positions for biomedical laboratory scientists. White= no competition of existing jobs, dark brown= strong competition of existing jobs. Chart is showing a shortage of staff for employment. Figure from Arbetsförmedlingen Sweden ;http://http://www.arbetsformedlingen.se/For-arbetssokande/Yrke-och-framtid/Yrkeskompassen.

Also, many older biomedical laboratory scientists, with a more specialized core competence, are near retirement, hence we will soon face a lack of skillful experts in the lab. The individual design of the master program enables the biomedical laboratory scientist to plan for an education that will be highly specific and for an BLS already employed, this could be done together with the laboratory supervisor.

Employee perspective

Helena Johansson, Dep. of Laboratory medicine, Pathology. Örebro University Hospital, Photo: Kristin Lundström

"After working 6 years in clinical pathology, I was approached by my laboratory manager to attend the master program. I have an interest in gross pathology, a skill that is much wanted in the lab because of the shortage of pathologists.
I found the combination of studies and practice at my own workplace a benefit that made it easer to continue working after the master program had ended."
Helena Johansson, specialist, biomedical laboratory scientist with a master in clinical laboratory medicine

Conclusion

A master program in clinical laboratory medicine provides a career opportunity for the professional society and is evidently needed to supply laboratories with specialized competence.

ÖREBRO UNIVERSITY
SCHOOL OF HEALTH SCIENCES

Region Örebro County
Örebro University Hospital

PN-07

Harmonization of Post Graduate Education in Biomedical Laboratory Sciences MARBLE

EUROPEAN MASTER
WWW.IMD-MARBLE.COM

Fernando Mendes[1 2], *Steve Meaney*[3], *Camilla Hesse*[4], *Margareta Jernde*[5], *Anne Bernds*[3], *Anneke Geurts-Moespot*[6], *Barbara Kappeller*[7], *Paulo Poldner*[8], *Sonia Daadoucha-Perrout*[9], *Armando Caseiro*[2], *Veronika Stefanik*[6], *Christine Schnabl*[7], *Marie Cullitton*[3 9]

1 European Association for Professions in Biomedical Sciences, Brussels, Belgium;
2 Inst Politec Coimbra, ESTeSC – Coimbra Health School, Departamento de Ciências Biomédicas Laboratoriais, Coimbra, Portugal;
3 Superiors Health Technicians in the Area Diagnostic and Therapeutic Union, Porto, Portugal;
4 Biomedical Science Department, Dublin Institute of Technology, Dublin, Ireland;
5 Environmental Health Sciences Institute, Dublin Institute of Technology, Dublin, Ireland;
6 Department of Clinical Chemistry and Transfusion Medicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden;
7 Biomedical Science Department, University of Applied Sciences Campus Vienna, Austria;
8 Department of Pathology and Laboratory Medicine National Maternity Hospital, Dublin, Ireland;
9 Academy of Medical Laboratory Sciences, Dublin Ireland.

MARBLE
Master in Biomedical Laboratory Sciences in Europe

Introduction

The clinical laboratory has a vital role in informing medical decisions and delivery of healthcare. Clinical laboratory science and technology have advanced significantly over the last years. This has placed ever growing demands on the clinical laboratory and has driven the development of new specialist disciplines in biomedical science. The role of the Biomedical Scientists has also evolved - increasingly specialist skills and competencies are required to meet the patient requirements. However, the capacity to provide advanced education in this field seems to not keep pace with a significant potential for future skills gap in Biomedical Science. There are a lack of appropriate postgraduate training programmes capable of delivering the required knowledge, skills and competencies. There is thus a risk of a mismatch between the requirements of the profession and the availability of suitably qualified personnel which may potentially threaten the provision of high quality patient care. This programme will involve cooperation between leading educational providers in Austria, Ireland, Portugal and Sweden. It will deliver the students with a learning experience which will be unique in Europe.

The Consortium Members

Aims

To establish a high-quality European transnational Master program in Biomedical Science providing a route for specialist postgraduate education.

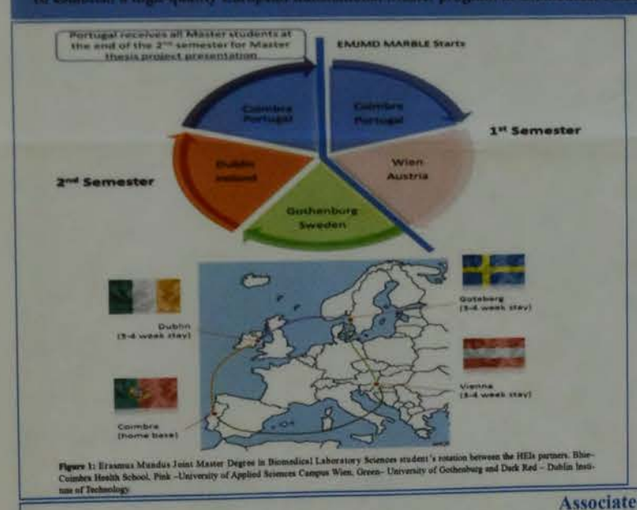


Figure 1: Erasmus Mundus Joint Master Degree in Biomedical Laboratory Sciences student's rotation between the HEIs partners. Blue– Coimbra Health School, Pink –University of Applied Sciences Campus Wien, Green– University of Gothenburg and Dark Red – Dublin Institute of Technology

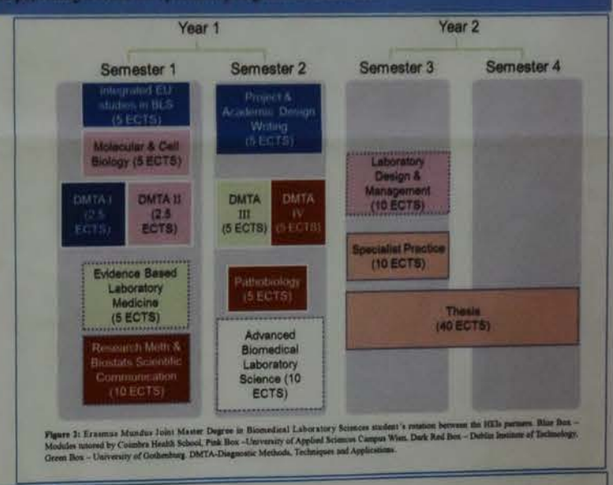
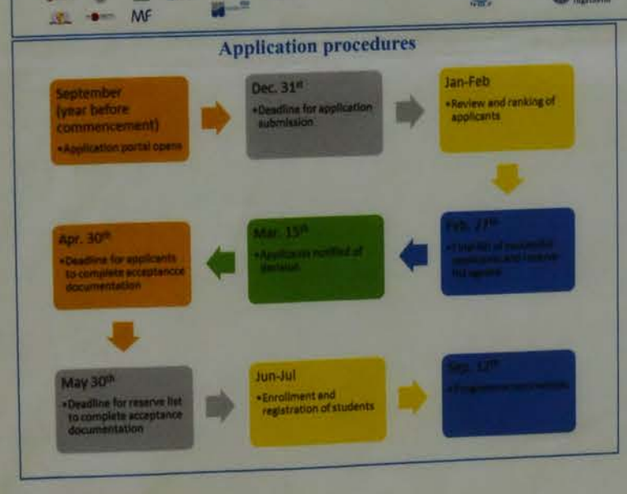


Figure 2: Erasmus Mundus Joint Master Degree in Biomedical Laboratory Sciences student's rotation between the HEIs partners. Blue Box – Modules tutored by Coimbra Health School, Pink Box –University of Applied Sciences Campus Wien, Dark Red Box – Dublin Institute of Technology, Green Box – University of Gothenburg. DMTA-Diagnostic Methods, Techniques and Applications.

Associated Partners

Application procedures



Outcome

Education

PN-08

Continuous Professional Development: Keeping Track of Activity

Marie Culliton, Monica Fitzpatrick, Pauric Reilly, Margo Mitchell, Irene Regan
The Academy of Clinical Science and Laboratory Medicine, Dublin, Ireland.,

Background

The Academy of Clinical Science and Laboratory Medicine developed its 1st Continuous Professional Development Programme over 20 years ago
This programme has evolved through for Professional Enhancement Programme with a fixed cycle to a concept of Continuous Professional Enhancement Programme with rolling cycles through to the current Continuous Professional development Programme designed to meet the current needs of Medical Scientists in Ireland .

PEP CPEP CPD

The Academy and CPD

- **ACSLM**
  - National Programme for CPD
  - National Conferences: BioMedica and LabCon
  - Academy Advisory Bodies
- **Advisory Bodies**
  - Cellular Pathology, Clinical Chemistry, Haematology, Immunology, Microbiology, Transfusion and Transplantation Science
  - Laboratory Management (Quality, Information, Health and Safety), Molecular Biology and Point of Care Testing
- **CPD Activities**
  - Subject specific meetings, Reflective Practice
  - Essays, Journal Reading with Multiple Choice Questions

Drivers for Change

The advent of Statutory Registration of Medical Scientists with mandatory CPD under the Health and Social Care Professions Council (CORU) presents challenges for the Academy to meet its members needs and to retain membership. This combined with the ISO 15189 requirement for annual performance review prompted a review od the existing system and led to the development of an integrated 'on line' system for recording activities, reflective practice and production of reports for audit

Service to Members
- Meeting Development Needs
- Supporting Mandatory Regulation Requirement

Regulation
- Protection of Public
- Competence Assurance of Professionals

New Competencies
- From Points to Outcomes Measures
- Reflective Practice

New Solution

Commission a customised system to meet defined needs
The new integrated CPD system has been in operation since the middle of February 2016. Features are outlined below

ACSLM.CPD

Create New Record

My Membership
Marie Culliton
0248

Status:
Fellow of the Academy

My Portfolio
My Details
My Preferences
My Professional Details
My Qualifications
Exams
My PDP
My CPD
My Reports

Members Home
Members Area
Help
Competencies
ACSLM – Core Competencies
ACSLM – Advanced Proficiency Competencies
MCQ
Contact Us
Events

Imported Cycle Points: 71
Total points awarded after Import: 12

Title	Status	Action
CPD System Training ASCLM Office 21/04/2016		
Lecture MSc Clinical Biochemistry 11/03/2016		

About PDPs | Overview | Contacts | Activities

Your Personal Development Plan

This is a "Self-Assessment" tool. Planning your professional development is very important. You need to plan so that you demonstrate you are proficient and competent in your current role and that you are setting targets for your future development. There are three steps to creating your PDP:

- Step 1 **Overview;** Create your overall plan;
- Step 2 **Contacts;** Create a list of those you may wish to comment on your plan/records
- Step 3 **Activities;** List those activities you are going to undertake to meet the goals you have set in the PDP. In other words 'How Do I get There?

Reports

My CORU Report

Report of Learning Activities

Learning Activity	CPD Points gathered
Evening event/2 hours (1 record(s))	2
Lecture - National/International/3rd Level (1 record(s))	10
Total amount of points	12

CPD Record - Competencies

Please use the check boxes below to select the competencies you wish to link to this CPD record, The benefit of doing this is that you can create a report of your CPD activity, in relation to a particular competence(s) to show how you have been developing yourself in relation to a specific area(s) of professinal practice.

Reflective Practice

What Learning need was the activity designed to meet (refer to Personal Learning Plan) or was this an unplanned Learning opportunity?

The learning need addressed was familiarisation with the new CPD programme at the ASCLM

On reflection, what have you learned from the experience? (skills, knowledge, professional attitudes, other)

Learned a few new routines and facets of the programme and how it links with the PDP

How can this learning impact on my professional practice and delivery of service to my service users ?
Has this learning activity highlighted any areas for development and new learning needs for me?
My action plan resulting from this experience is:

Conclusion

The Academy of Clinical Science and Laboratory Medicine has purchased and customised a CPD system for its members. This system permits maintenance of the record of qualifications, professional competences and certificates of meeting attendance. The system facilitates personal development planning and reflective practice allowing the Biomedical Scientist to link their CPD to their development plan. Information can be captured on customised reports for preparing Curriculum vitae, performance appraisal or to satisfy the requirements of the regulator
This CPD record management system is a valuable tool for both the Academy and its members.

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My active events

CPD – Laboratory Managers and Chief Medical Scientists

A-1 A-1

Education

PN-09

PN-09

Activity report on the training course in Asia: Development of research proposal

-Capability required for Japanese medical technologist-

Ai Sakai [1] , Nozomi Takashige [1] , Tatsunori Tamaki [2]

1 Osaka Medical Collage Hospital Central Laboratory

2 Kinan General Hospital

Introduction

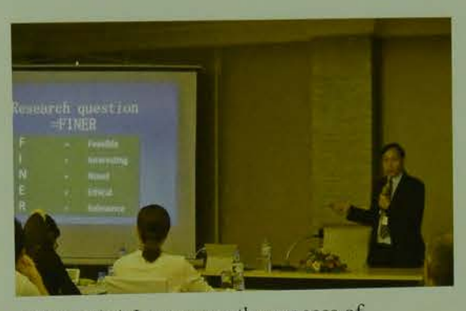
August 2015, I participated in the 10th training course held at Chulalongkorn University in Thailand. The course contents covered HIV/AIDS, viral hepatitis and Dengue fever epidemiology, control and prevention in Thailand. Participants received a series of lectures on the process of developing a research proposal. Furthermore, participants prepared a research proposal through group work which aimed to raise awareness of HIV testing and infection control in Japan.

Objectives

1. Learn HIV/AIDS epidemiology of Japan.
2. Develop infection control plans in Japanese context.
3. Learn practical applications of logical thinking in order to develop a research proposal for HIV/AIDS awareness campaign.

Training contents

1. Conduct research for HIV/AIDS epidemiology in Japan to understand background
2. Conduct group discussions about the problem of HIV infection control Divided participants into 3 groups , and made discussions
3. Determine a purpose and develop an effective plan
4. Identify a feasible strategy (research methods , work plan and budget)
5. Provide an oral presentation
6. Evaluation by professors at Chulalongkorn University



(Photo.1) A Lecture on the process of developing a research proposal from Dr.Tewin Tencomnao

(Photo.2) Group discussion

◆ *The required items for developing a research proposal* ◆

Title
Background (Rationale and Justification)
Objective
Hypothesis
Variables
Operational Definition
Scope and Limitation
Usefulness
Research Methods
Work Plan
Budget

◆ *Presentation titles of each groups* ◆

Group A:
「AIDS to learn in parent and child」
Group B:
「A Survey of Knowledge about HIV/AIDS of Junior High School Students in Japanese Regions」
Group C:
「Change the image of HIV in Japan !」

(Photo.3) Oral presentation

Future goals

1. Implement and evaluate the proposed plans.
2. Host a seminar on research proposal development process as part of medical technologist education curriculum.

Consideration

I gained many valuable experiences as medical technologist in this Asia training course.
Research proposal development skills are vital in order to do a logical and well-planned research. These skills will be useful to conduct conference presentation and academic research.
However, there is a lack of opportunities for Japanese medical technologists to learn research proposal development, and many people do not fully understand it.
Providing more study opportunities at seminars, workshops, and educational institutions will likely encourage Japanese medical technologists to further contribute to clinical research and public health.

A-2

A-3

Education

PN-10

PN-10

Activity Report on the 10th Training Course for Medical Technologist in Asia

Nozomi Takashige[1)], Ai Sakai[1)], Tatsunori Tamaki[2)]

1) Osaka Medical College Hospital, 2) Kinan General Hospital

Background

The 10th training Course was held in Bangkok, Thailand in August 2015.

Spread of infectious diseases has been a serious problem in the world, and in particular the number of HIV/AIDS patients in Japan has been increasing.

Medical technologists are interested in global public health, there is a lack of training opportunities.

Course Objectives

1. Obtain knowledge about the infectious disease epidemiology
2. Create a framework, basic methods and principles of effective interventions and a research proposal in oral presentations.
3. Increase knowledge about the disease prevention activities and methods of precaution.

Course Details

Participants	18 (14 Japanese, 4 Thai; 4 males, 14 females)
Participants' occupation	Medical Technologist, Laboratory Technician, Public Health Professional and Related Fields
Place	Chulalongkorn University, BIDI
Duration	3days
Language use	English language

Schedule & Contents

Day 1	Opening Ceremony
	Orientation
	Overview: Epidemiology, Current situation and diagnosis of TB and HIV in Thailand
	Lecture of Research Proposal Lecture of Project Cycle Management(PCM) Preparation of Research Proposal by Group work
	Welcome Party
Day 2	Re-Emerging Diseases Ⅰ; Dengue
	Field trip to BIDI (The role of the BIDI hospital in HIV/AIDS patient)
Day 3	Re-Emerging Diseases Ⅱ; Hepatitis A,B,C,E
	Get involved in Public Health as a Medical Technologist
	Presentation of Research Proposal
	Closing Ceremony

Conclusion

- This training course was a great opportunity to:
  - learn epidemiology and research proposal
  - interact with medical professionals internationally
  - explore possible future contributions to public health
  - share global knowledge and experiences
- More international learning opportunities are needed for further capability development of medical technologists.

Education

PN-11

Medical English
Our Challenging
Yokohama Rosai Hospital

1

Objective

Investigate the effects of the study and training of Medical English on the staffs in Yokohama Rosai Hospital.

Yokohama Rosai Hospital

2

Method

①Study and training of Medical English

(Step-1) Basic Medical English
- General information
- Reception
- Accounting
- Consultation room
- Blood collection room
- Laboratory

Yokohama Rosai Hospital

3

(Step-2) Practical medical English
- Medical terms
- Complaints
- Medical history
- Physical findings
- Differential diagnosis
- Ultrasound training

Yokohama Rosai Hospital

Method

4

②Investigate the effects of the study and training of Medical English on the staffs by their opinions.

Result

5

1. Two staffs are working at the entrance wearing armband with sign "English".
2. Our activity has been considered as an official duty.
3. Young staff participated in our lesson.

Yokohama Rosai Hospital

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Education

PN-11

Medical English : Our Challenging Work in Yokohama Rosai Hospital

Yokohama Rosai Hospital Laboratory department chief staff ○Hitoshi Ohuji Hideaki Shirai

Objective

1

Investigate the effects of the study and training of Medical English on the staffs in Yokohama Rosai Hospital.

Method

2

①Study and training of Medical English

(Step-1) Basic Medical English

- General information
- Reception
- Accounting
- Consultation room
- Blood collection room
- Laboratory

3

(Step-2) Practical medical English

- Medical terms
- Complaints
- Medical history
- Physical findings
- Differential diagnosis
- Ultrasound training

Method

4

②Investigate the effects of the study and training of Medical English on the staffs by their opinions.

Result

5

1. Two staffs are working at the entrance wearing armband with sign "English".
2. Our activity has been considered as an official duty.
3. Young staff participated in our lesson.

6

4. Rearrangement and organization of duty work may be confirmed.

5. Contribution to medical treatment can be identified.

Discussion

7

1. Staffs found that medical English was very helpful to organize daily duties.
2. To keep on studying after daily duties, we noticed that this medical English should be delightful for the staffs, therefore studying clinical scenario was added.

8

3. In the clinical setting, we found that clinical scenario was very important and helpful for all kind of medical staffs.

Conclusion

9

1 .This investigation showed that study and training of medical English surely developed the potential of staffs in Yokohama Rosai Hospital.

10

2. The study and training of medical English was very helpful to make the office more productive and also contributed to medical treatment.

Education

PN-12

Student-led Approaches for Sustained HIV/AIDS Awareness in Okayama University of Science

Ken Kataoka[1], Yumi Okamoto[2], Hisaharu Tanaka[3], Tatsunori Tamaki[4]

1) Okayama University of Science, Okayama, Japan 2) Matsuda Hospital, Okayama, Japan
3) Osaka College of Medical Technology, Osaka, Japan 4) Kinan General Hospital, Wakayama, Japan

Background

As of the end of 2014, a total of 16,903 cases of HIV infection and 7,658 AIDS cases have been reported in Japan. Even the numbers of new infection cases and AIDS cases generally continue to be flat, the awareness toward HIV/AIDS is waning. Due to the spread health education for high school students, almost all the Japanese university students had already learned about HIV/AIDS during their high school days. However their awareness toward HIV/AIDS is low. To raise their awareness, we have tried two types of student-led approaches in Okayama University of Science (OUS).

Participatory Event (Photo-Moji Art) in the University Campus Festival

We have held a student-led participatory event called Photo-Moji Art in OUS campus festival. Photos of attendees, who held their statements concerning HIV/AIDS, were put in order to form the letters to write a 2015 AIDS day theme AIDS IS NOT OVER. At the event booth, university student stuffs told HIV/AIDS knowledge to the attendees. Totally 130 people were attended and 76% of the attendees were raised their awareness caused by this event.

Fig 1. Okayama University of Science (OUS).

Fig 2. HIV/AIDS event in OUS campus festival.

Event Name: Photo-Moji Art "AIDS IS NOT OVER"
Date: Nov 21-22, 2015
Place: OUS campus festival information center
No. of attendee: 130
What they did:
1) Write a statement concerning HIV/AIDS on a sketchbook.
2) Take photos with the statement.
3) Put photos on a big board to form letters to make a AIDS day theme "AIDS IS NOT OVER".

Fig 3. Photos with their own statements.

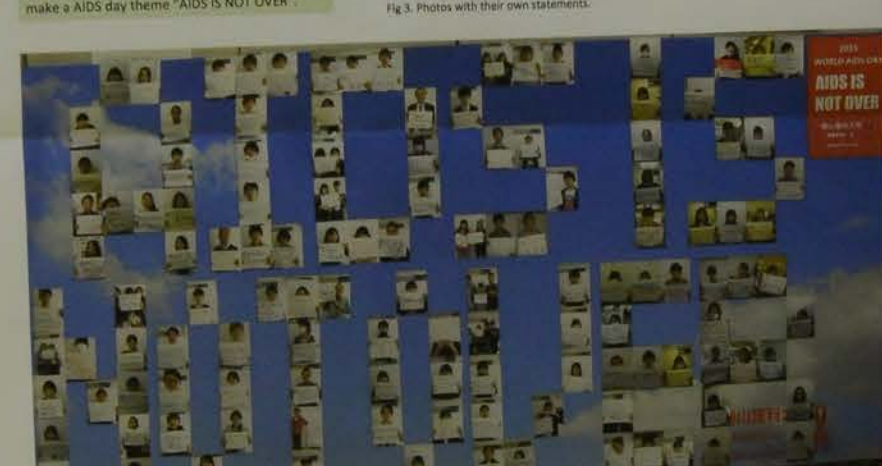


Fig 4. Photo-Moji Art "AIDS IS NOT OVER". The actual size was 180 cm (W) x 90 cm (H).

QUESTIONNAIRE

A questionnaire was done after the event.
No. of answerer: 30
Question:
Is this event helpful to raise your HIV/AIDS awareness?
→ Yes/No

Fig 5. Is this event helpful to raise your HIV/AIDS awareness?

Original Peer Education Program

Peer educators were university students studying laboratory medicine and they taught to fellow students using an original leaflet. To learn the actual AIDS misery, peer educator students attended the Training Course for Medical Technologists in Asia organized by Wakayama Association of Medical Technologists. They visited an AIDS hospice and discussed with medical technologists in Thailand. Their peer education talk had a persuasive power and the attendees were well understood.

Fig 6. Original leaflet for a peer education program.

Fig 7. Photo of a peer education event held by a university student.

Training course for medical technologists in Asia

Organizer: Wakayama Association of Medical Technologists
Date: Aug 21-26, 2013 (9th) and Aug 19-24, 2015 (10th)
Place: Chulalongkorn University (Thailand)
Contents:
1) Lecture about public health and infectious diseases (HIV, Tuberculosis etc)
2) Lecture and group work of "Research Proposal"
3) Field trip to HIV/AIDS institutions (Hospital, Hospice etc)

Fig 8. AIDS research center in Chulalongkorn Univ.

Fig 9. AIDS hospice in a temple.

Conclusion

We have performed two types of trials, a participatory event and peer education, in Okayama University of Science. These student-led approaches will be powerful tools for sustained HIV/AIDS awareness.

Fig 10. Our activity was reported in a local newspaper (Sanyo Shinbun).

Education

PN-13

Sociological Research on Medical Care based on Practice of Clinical Laboratory Science

Toward People-Centered Care

Miyako OKA, Yutaka YOSHIMURA

Department of Central Clinical Laboratory, Nara prefecture General Medical Center, Japan

Introduction

It is often claimed that medical care needs to shift from treatment-centered approach to people-centered care, though it has not progressed successfully. One of the abstractions is the circumstances of the people who include residents, patients, and medical professionals. They are deeply embedded in the current care system, and cannot consider it objectively to discuss how to implement people-centered care. This study shows medical professionals a perspective to help realize people-centered care through practices.

Method

This study reviews the current medical care sociologically, with attention on the roles of medical professionals. Materials for the review were collected by research on the history and present condition of medical laboratory science and medical technologist, which were established with the modern medicine development in both Japan and Samoa. Interviews and questionnaire survey for Samoan medical technologists were conducted.

Results

1) Medical professionals tend to ignore the diversity of patients

In the laboratory, the "totality of patient" with such a variety of different lifestyle and family structure, has been recognized as a "part of the fragmented patient" such as a specimen in a clinical examination container that has been written the ID number(fig.1). This property is in common with the characteristics of modern medicine. Patients and their families are aware of "whole of illness"; that is included how patient's own recognize symptoms and disabilities, how to live with it, and how to accept it. On the other hand, medical professionals are aware of "a part of illness" that is the disease and see from the point of view to focus on the subject of the treatment for the control of the disease process.

Fig1: Image of a part of illness

Medical professionals ought to recognize that modern medicine tends not to emphasize the diversity of the individual.

2) Medical professionals are final communicator in the one-way propagation of medical technology and knowledge

Technology and knowledge in modern medicine, which are created in turn are transmitted in order. Table.1, the author summarizes from the investigation and interview, which was conducted in 2008, is "the program to screen for and treat chlamydia in Samoa", and shows one example of information flow in modern medicine. Firstly, technology and knowledge are shared among medical professionals through conferences and training, and it will reach to the residents through the medical practice. It can be said that hospital and clinic are the final points of the information flow, and medical professionals are its final communicator, and the transfer of new technology and knowledge is one-way from medical professionals to the residents. Therefore, in the field of medical practice, in most cases medical professionals to lead the evaluation and selection of medical technology and knowledge.

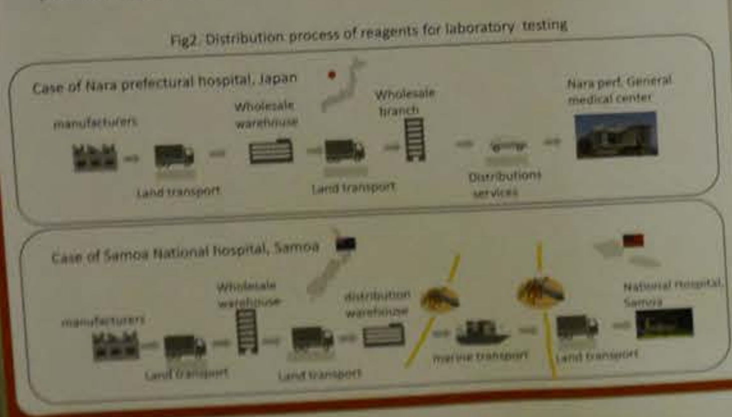
Residents and medical professionals ought to recognize that there is a trend of unilateral medical practice led by medical professionals.

Table1:Case of the program to screen for and treat chlamydia in Samoa

Actual events	Fact	Target of transferring Knowledge and technology	Information flow
In Pacific Island countries and territories, academic research showed that with up to 20 percent of people aged 15-30 possibly infected by chlamydia (2008deta).	Announcement of the new knowledge on the meeting or document.	Medical professionals in specific	↓
Samoa joined the program to screen for and treat chlamydia as national project supported by The Pacific Community*.	New knowledge reach to the country	Medical professionals and politicians inside the country.	
Chlamydia PCR testing was introduced into Samoa National Health Laboratory. Testing equipment, reagents and technical support were provided by the Pacific Community	Training of new testing for laboratory technicians	Medical professionals in the hospital	
Screen for and treat Chlamydia were implemented for pregnant women as prenatal testing	Implementation of new practice for residents	Residents through the medical practice	

* The Pacific Community : International development organization in the Pacific region. Including the 22 Pacific Island countries and territories, and four of the founding countries (Australia, France, New Zealand and the United States of America).

Fig2. Distribution process of reagents for laboratory testing



3) Medical professionals are mediator of "development and spread of modern medicine" with authority

The case of the program to screen for and treat chlamydia in Samoa (Table.1) shows that medical professionals have a role as a mediator of "development and spread of modern medicine" with authority. This program was introduced to Samoa through The Pacific Community and implemented as a Samoa national program. Residents of Samoa learned about Chlamydia infection at the time of medical practice at the hospital and adopted new information naturally.

One of the reason might be the authority of modern medicine. It is guaranteed by two elements, medical professionals qualification system, and the presence of Western countries in which modern medicine has been originated. Medical professionals are qualified by the national examination system, and certification and training by associations of medical professionals autonomously guarantee qualification. Four founding countries (Australia, France, New Zealand and the United States of America) of the Pacific Community are western countries and were the trustee countries under the United Nations.

Authority of modern medicine might be helping medical professionals when they introduce new medical information to the residents. Residents and medical professionals ought to recognize this is one of the hidden features of medical professionals.

4) Medical care service is composed of many people involved, including medical-related industries, distribution related services, infrastructure development industries and others. Medical professionals, as regular participants, need to cooperate with them to build care system

As a matter of fact, laboratory performance depends on a stable supply of industrial medical products. Fig2. shows Distribution process of reagents for laboratory testing in both Japan and Samoa. In Samoa, because reagents are all imported from overseas, the importance of reagent management might be more careful than in Japan. Distribution systems are one of the factors of laboratory performance. The distribution system is established by infrastructure development such as port and road transportation network development, large-scale cold storage facilities, possession of container ships and planes.

Obviously, the productivity of enough reagents is one of the factors of laboratory performance. Improvement of the laboratory performance will contribute to the health of residents. On the other hand, it should also be noted that improvement of the laboratory performance has led to the benefit and the expansion of sales channels of the reagent manufacturer.

In general, Medical professionals and patients play a major role to build a health care system. However, modern medicine is dependent on a stable supply of medical products, a lot of people who work in those fields also plays a potential role to build a health care system. Actor for building the care system are extended to many fields.

Once the residents, including medical related industries, distribution related services, infrastructure development industries and others, realize own roles to build care system, it can be possible to begin to build people-centered care system. Medical professionals are expected as promoters who lead to build people-centered care system.

5) People are capable of varying medical care system to suit the own community.

According to the review for 1)to4) of the results, those were focused on the common current state of the clinical laboratory in Japan and Samoa. The discussion was on the assumption that modern medicine was a universal system that transcends the historical and social conditions. However, in practice, medical care in both Japan and Samoa is left to the people who are living there, there might have been a customized medical practices rooted in the region.

Medical professionals, on behalf of the residents, continue to accumulate the medical knowledge and technology necessary for the region and build the medical care system to suit the own community.

Conclusion

Medical professionals are contact points between modern medicine and the people, as a communicator, a mediator and a promoter. It means that medical professionals, as the regular members of medical care service and as representative of the people, are asked a great responsible role for the people. Medical professionals should recognize that every present action or decision making of medical professionals may lead medical care system of the future. Do you head to either treatment-centered approach or people-centered care?

This study is a research achievements in Nihon Fukushi University master's program

Review on the HIV/TB training for MTs in Asia

Tatsunori Tamaki, Hiroshi Matumoto, Masato Takenaka 1)
Norihito Tanaka 2), Koji Kubo 3), Hisaharu Tanaka 4)

1)Kinan General Hospital 2)Wakayama Rousai Hospital
3)Saiseikai Wakayama Hospital 4)Osaka Medical College Of Medical Technology

Participants List of 1st-10th

(place) M,U : Mahidol University AIHD : Mahidol University, ASEAN Institute for Health Development T,H : Training &Healing, Rayong C,U : Cularongkong University

The title of Research Proposal 1st-10th

1st ○Incidence of Needle stick accident among hospital personnal, Hiroshima Red Cross Hospital ○ Prevalence of TB infection among HIV positive in General Hospitals of Osaka,Japan

2nd ○ HIV Vertical Transmission and Factors Affecting this transmission at Bamrasnaradura Hospital ○ Incidence of Mycobacterium Avium Complex (MAC) Among HIV/AIDS Patients in Bamrasnaradura Hospital, Thailand

3rd ○ Factors affecting the reduction of HIV infection in infants after the standard treatment of HIV infected mothers ○ Factors affecting DOTS noncompliance among TB patients at Nopparat Ratjathanee Hospital

4th ○ Prevalence of HIV infection and related factors in Commercial Sex Workers at Kabuki-Cho, Tokyo, Japan ○ The new DOTS program for reducing TB infection rate among family contacts in Klong Toey Area, Bangkok

5th ○ The usability of the Chlamydia test for the detection of HIV infection positive person on the pregnant mother

6th ○ Promotion of the practice of HIV test in Osaka ○ Factors contributing HIV stigmatization in Osaka hospital among doctors and nurses

7th ○ Lesson learn from Thai policy for successful in promoting HIV testing in Japan ○ The way to increase tuberculosis test rate in Airin's homeless

8th ○ HIV/AIDS education to students in Kagawa ○ Education for young generation

9th ○ The Effectiveness of International Health Education Using Skype ○Decrease of HIV infection among youth -Education to HIV Peer educator- ○Development of a new education program for MT students to improve "TOTAL HUMAN ABILITY"

10th ○ AIDS to learn in parent and child ○ A Survey of Knowledge about HIV/AIDS of Junior High School Students in k9 ○ Change the image of HIV in Japan!

Action after this training course

1.Conference Presentation on proposal development for JAMT and other institutions.
・6 titles (International Congress), 52 titles (Domestic Congress), 11titles(Paper)
2.Lectures on HIV/AIDS at Nursing schools and High schools.
・121 times, about 4,000people. (Wakayama, Fukui, Okayama, Hiroshima and Osaka Pref.)
3. Action of Voluntary Counseling for Testing and Flyer distribution.
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・1 participant got a job CDC, after admission Emory University

Summary

Wakayama Association of Medical Technologist have organized 10 training courses with the cooperation of Association of Medical Technologists of Thailand to develop human resources who can contribute to infection control measures mainly for HIV/TB. From these experiences in training, the participants are hoped to demonstrate their ability as leaders in their facility, region, educational sites and for the association of medical technologists in the future. Furthermore, it is hoped that they can work internationally with global point of view.

Collaboration with Chittagong Medi

amada Hiroshi, Yanagita Emmy, Ito Tomoc

rtment of Diagnostic Pathology of Kobe Univers

Education

PN-14

Foreign Trainee Invitation Program in TMER, Japan. Part II

Etsu Suzuki[1,2], Keiko Inoue[2], Asami Naito[2], Yasuhiro yanagisawa[2], Michikuni Ishijima[2], Hisayoshi Satoh[1], Kyoko Komatsu[1,3] and Tom Stowe[3]

1:Tsukuba Medical Laboratory of Education and Research. 2:Tsukuba i-Laboratory LLP. 3:International Federation of Biomedical Laboratory Science;

Introduction

The Tsukuba Medical Laboratory of Education and Research (TMER) is mainly engaged in supporting the education, development, and training of Medical Scientists and Medical Technologists.

The University of Tsukuba Hospital and LSI Medience Corporation established TMER to promote research and development based on collaboration between industry and academia.

TMER has held the Foreign Trainee Invitation Program every year since 2011, receiving clinical laboratory scientists from various countries for training in medical laboratory technology, with the joint aims of contributing to improve in the level of medical care in the trainee's home country and building mutually beneficial international friendship.

In 2011: Physiological function training (from Taiwan ★)

In 2012: Immunology training (from Canada & Sri Lanka ★★)

In 2013: Hematology training (from Cameroon, Nigeria & Japan★★)

In 2014: Pathology training (from Greece & Japan ★)

Over the last 5 years, we have received 7 trainees from 7 different countries.

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Tsukuba Medical Laboratory of Education and Research (TMER 🙂)

In 2015: Hematology training (from Philippines & Japan ★)

From the trainee; I was able to share my experience during the training to members of the Philippine Association of Medical Technologists who attended the 51st Annual Convention held at the Manila Hotel. I was invited by our National President, Mr. Ronaldo Puno, as a symposium speaker to discuss the procedures in applying for the scholarship program and the beautiful experience of training with one of the best laboratory in Japan.

Under the joint auspices

TMER

- Tsukuba Medical Laboratory of Education and Research (TMER)
- International Federation of Biomedical Laboratory Science (IFBLS)
- Japanese Association of Medical Technologists (JAMT)
- University of Tsukuba Hospital

Education

PN-15

Review on the HIV/TB training for MTs in Asia

Tatsunori Tamaki, Hiroshi Matumoto, Masato Takenaka 1)
Norihito Tanaka 2), Koji Kubo 3), Hisaharu Tanaka 4)

1)Kinan General Hospital 2)Wakayama Rousai Hospital
3)Saiseikai Wakayama Hospital 4)Osaka Medical College Of Medical Technology

Course description

HIV/AIDS and TB are part of the major global public health issues and are recently increasing in developing and under developed countries, and also in Japan. Laboratory diagnosis holds a key to these issues. The data from the laboratory is crucial for screening and confirming the unfound infected cases. It is used in epidemiological surveillance, research on its epidemiology and other related fields as well. Therefore, education and training of MTs in Japan is the urgent task. We sought MTs in Thailand who experienced controlling an outbreak in these areas for their kind cooperation.

The training courses were designed on the principle of epidemiology including laboratory surveillance and the HIV/AIDS and TB related lectures necessary to apply the obtained laboratory data for writing a research proposal. The topics included epidemiological review of trend in these infectious diseases in Thailand. Field trips were provided to get more information and ideas on site.

Participants were requested to carry their routine data of their facility and to plan research project in their field of interest to practice writing a short research proposal.

Course Objectives

1.To learn epidemiology of AIDS/TB deeply and understand how to make and use the Research Proposal.
2.To train and educate for the Japanese Medical Technologists.
3.To construct a future Asian Network by Medical Technologists.

Course contents

1. Epidemiology of HIV/AIDS/TB.
2. Field trips (list of visited hospitals and facilities)
   - ・Banrasunaradura Infectious Disease Institute
   - ・Thai National Institute of Health
   - ・Thai Red Cross AIDS Research Centre
   - ・The HIV Netherlands Australia Thailand Research Collaboration
   - ・Camellian Social Center, Rayong
   - ・Hospice Temple (Wat Phra Bhat Nam Phu)
3.Preparation of Research Proposal and presentation by working group.

Partnership

・Wakayama Association of Medical Technologists
・Faculty of Public Health, Mahidol University, in Thailand
・Mahidol University,ASEAN Institute for Health Development, in Thailand
・ Faculty of Allied Health Sciences, Chulalongkorn University, in Thailand

13 category of Research Proposal
①Research Title
②Rational and Justification or Background
③Research question
④Hypothesis
⑤Objectives(Aims)
⑥Conceptual Framework
⑦Variables
⑧Operational Definition
⑨Scope and Limitation of the Study
⑩Usefulness of the Study
⑪Research Methods
⑫Work Plan
⑬Budget

Specificity of Research Proposal
1. Organized logically, easy to understand.
2. Suitable for epidemiological research.
3. Written in English, good for international use.
4. Also useful for familiar issue by applying technique.

Participants List of 1st-10th

	year	place	Country: Japanese	Thailand	Cambodian	Sex: men	women	occupation: Med. Tec.	Doctor	Nurse	Student	Teacher	Other	total	Staff
1st	2000	M,U	10	0	0	7	3	10	0	0	0	0	0	10	0
2nd	2001	M,U	7	3	0	5	5	7	1	1	0	0	1	10	1
3rd	2002	M,U	11	2	0	4	9	10	1	1	2	0	0	13	4
4th	2004	AIHD	10	3	1	8	6	11	0	1	1	0	1	14	4
5th	2005	T,H	9	0	0	3	6	8	0	1	0	0	1	9	4
6th	2009	T,H	9	3	0	5	7	10	0	0	0	0	2	12	4
7th	2011	T,H	9	2	0	4	4	8	0	0	2	1	1	11	4
8th	2012	T,H	10	2	0	4	8	8	0	0	2	1	1	12	4
9th	2013	C,U	12	2	0	3	11	7	0	0	4	3	0	14	5
10th	2015	C,U	17	4	0	4	17	8	0	0	11	2	0	21	6
total			104	21	1	47	76	87	2	4	22	7	7	126	38

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6th
- Promotion of the practice of HIV test in Osaka
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- Decrease of HIV infection among youth -Education to HIV Peer educator-
- Development of a new education program for MT students to improve "TOTAL HUMAN ABILITY"

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Education

PN-16

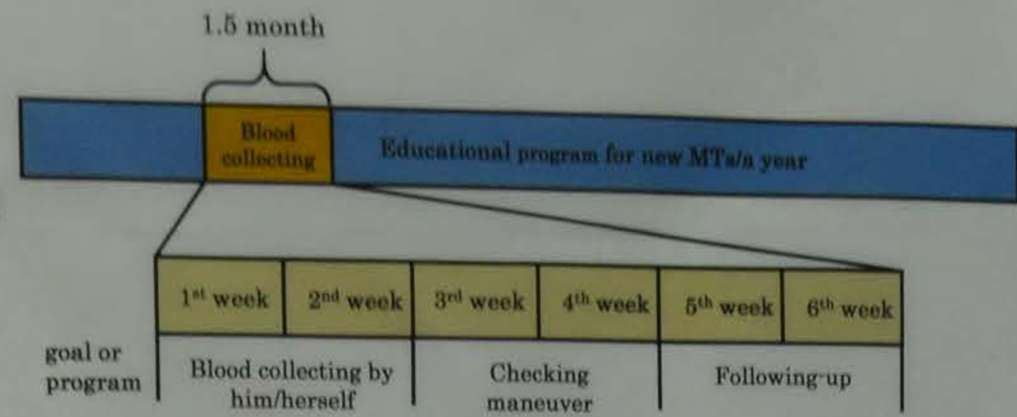
Result of our blood collection educational program for new medical technologists.

Masahiko Kozaki[1)], Miho Kuroda[1)], Saori Shibayama[1)], Yasunao Wada[1)], Koji Inuzumi[1)], Masahiro Koshiba[2)]

1) Department of Clinical Technology, Hyogo College of Medicine Hospital
2) Department of Clinical Laboratory Medicine, Hyogo College of Medicine

Introduction

Blood collection is one of the most important processes to provide precise and swift results of the blood test. We have a blood collection educational program for 1.5 month for new medical technologists (MTs). The results of our program are reported.



Result

Fig.1 The numbers of patients

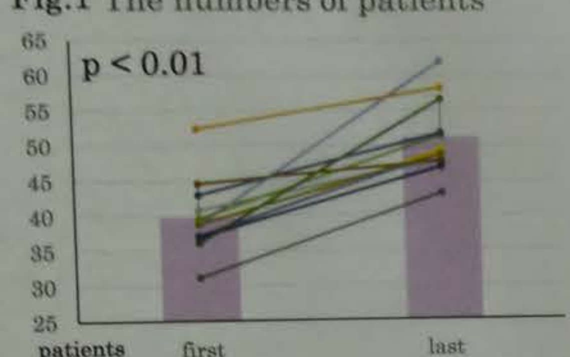


Fig.2 The time necessary for blood collection per patient

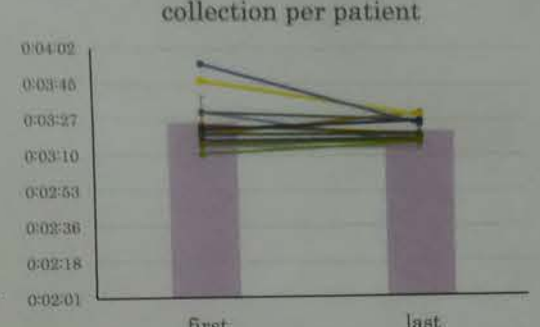
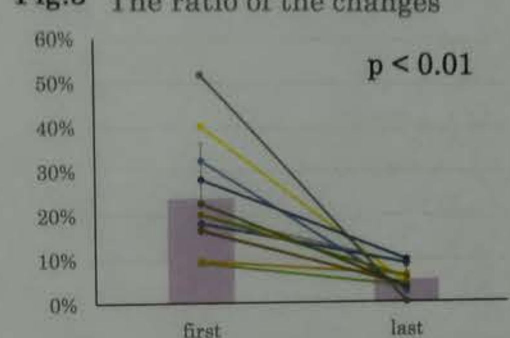


Fig.3 The ratio of the changes



means, MT-a, MT-b, MT-c, MT-d, MT-e, MT-f, MT-g, MT-h, MT-i, MT-j, MT-k, MT-l

The numbers of patients significantly increased from 39.7 ± 5.26 to 51.1 ± 5.34 ($p < 0.01$)(Fig.1). The time necessary for blood collection per patient was not significantly changed (from 3:26 ± 0:13 to 3:22 ± 0:06)(Fig.2). The ratio of the changes was significantly improved from 24 ± 12.6 % to 5 ± 2.9 % ($p < 0.01$) (Fig.3)($n = 12$).

Material & Methods

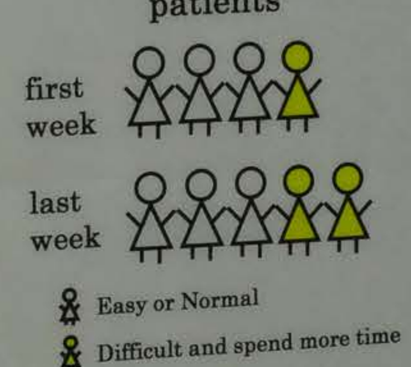
We calculated the numbers of patients who are collected their blood by new MTs, the time necessary for blood collection per patient, and the failure blood collection by new MTs is estimated by the ratio to change to the superior MTs or nurses. On each new MT the data from the last week were compared with the first week. The results are shown as mean ± SD and the statistical analysis was performed by t-test.

Conclusion

Our results obtained indicate the usefulness of our blood collection educational program for new MTs.

I have no COI with regard to our presentation.

Discussion



The blood collection technique of new MTs was improved because of the enforced educational program in terms of the patient numbers and the ratio of the change. The new MTs tend to try to perform the blood collection by themselves even when it is difficult for them, which explains the reason that the time necessary for blood collection per patient was not significantly changed while the number of patients and the ratio of the changes were improved.

Education

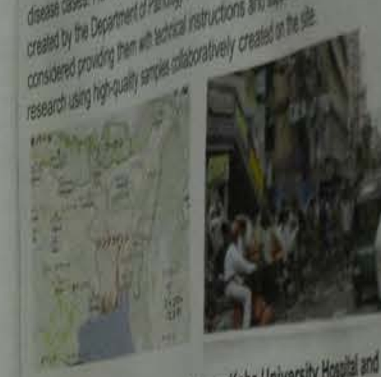
PN-17

Technical Collaboration with Chittagong Medic…

Yamada Hiroshi, Yanagita Emmy, Ito Tomoo
The Department of Diagnostic Pathology of Kobe University Hospital

1. Background

Bangladesh is a crowded nation where 152.5 million people live in a land about 1.7 times as large as Hokkaido. National issues include a severe gap between rich and poor, sanitary conditions are atrocious. Typhoid fever, hydrophobia, malaria, Japanese encephalitis and other diseases rarely seen in Japan still spread. Our Department of Diagnostic Pathology decided to have technical exchange with Chittagong Medical College (CMC), which is a hub to collect pathological information on such infectious disease cases. However, correctly diagnosing on the basis of poor quality samples created by the Department of Pathology of CMC was difficulty. We therefore considered providing them with technical instructions and support, and conducting joint research using high-quality samples collaboratively created on the site.



In April 2013, a partnership agreement between Kobe University Hospital and CMC in Bangladesh was concluded.
In May 2013, we conducted on-site inspection to understand the current situation, and in November 2013, two doctors and two laboratory technicians from our Department of Diagnostic Pathology provided the 1st technical instruction in the pathology class at the site. At that time, all the problematic processes observed in creating samples in the CMC Department of Pathology such as paraffin filtration, block creating and slicing, dilation, HE staining and inclusion were improved. Then, we gave the 2nd technical instruction in July 2014. In the 2nd instruction, we introduced machinery for paraffin filtration and block creation that had been conducted by hand and mainly improved the operation efficiency to shorten the process to create pathological samples.

Introduction of embedding center

Renewal of staining dose and series

Problem occurrence

Automatic embedding machine, VRX23, sent from Japan broken during transportation
They tried to operate the machine at the site, but it did not work. Thus, staff alone started to repair it hastily. Our staff overhauled the machine while exchanging E-mails with the manufacturer in Japan to ask what to do.

2. The 1st Technical Instruction

Improvement in dewatering and penetration processes

Wide-mouthed bottle from which contents are hard to take out, a small quantity of liquid and jam-packed samples

Lidded container from which contents can be easily taken out, a large quantity of liquid and plentiful samples

Improvement in paraffin filtration

Only one paraffin vessel, a small quantity of liquid, jam-packed samples and short filtration time

Paraffin vessels increased to three pieces, a large quantity of liquid, plentiful samples and filtration time of three hours or longer

Improvement in HE staining and series

Sharing one series in deparaffinization, dehydration and penetration, stain for which you cannot say the replacement time and trimming of redundant section

Change in stain exchange frequency to once a week

Professor Ito provided guidance on Japanese style cutting to on-site doctors.

Gauze was replaced with a sample treatment basket when VRX23 was introduced.

Embedding method instructed by the embedding center

Change to block creation on wooden stand

Introduction of water bath and flattening table after slicing

Introduction of large-sized dose container and stain basket, and instruction on inclusion method

Histopathology

3. The 2nd Technical Instruction

Introduction of cutting basket and start basket

Introduction of automatic embedding machine, VRX23

4. Conclusions

1. Introduction of Japanese style pathological creation method led to sample quality improvement.
2. CMC engineers are diligent, and their desire to learn from our instructions is strong.
3. They have knowledge, but machinery and reagents are limited because of financial difficulties, which result in the sample quality issues.

Two technical collaboration projects enabled us to provide them with machinery and technical instruction, which led to improving the pathological sample quality.

We could contribute to improving the medical quality in Bangladesh.

Education

PN-17

Technical Collaboration with Chittagong Medical College

Yamada Hiroshi, Yanagita Emmy, Ito Tomoo

The Department of Diagnostic Pathology of Kobe University Hospital

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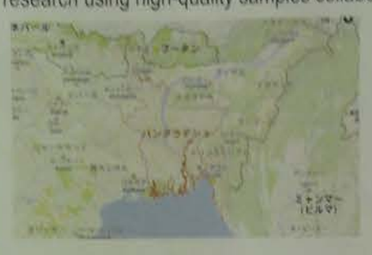

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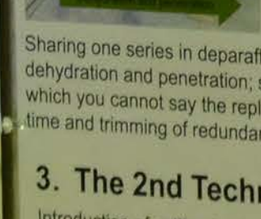

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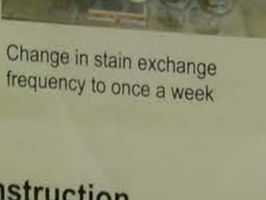

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Problem occurrence

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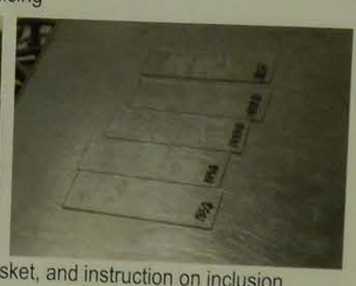
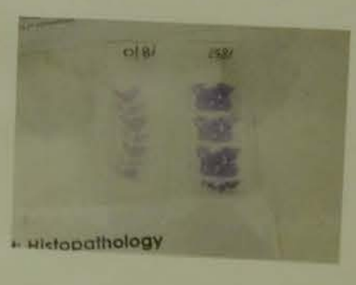


Introduction of large-sized dose container and stain basket, and instruction on inclusion method



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We could contribute to improving the medical quality in Bangladesh.

Education

PN-18

Support of pathological and international exchange in Nepal.

●Emmy Yanagita (CT)
Hiroshi Yamada (CT), Tomoo Itoh (MD),
Department of Diagnostic Pathology
Kobe University Graduate School of Medicine
www.med.kobe-u.ac.jp/byouri/

Nepal

Japan

Background

■Starting in 2013, we of the Department of Pathology of the Kobe University Hospital have visited the Chittagong Medical College Hospital in Bangladesh twice yearly in order to provide guidance and education about the pathology techniques used in Japan.In 2015, we observed the current situation of pathology techniques in Bhutan, and successfully resolved local problem areas.

■Through these experiences, we were also able to offer guidance and education on pathology techniques at Nepal's Kathmandu Medical Collage Teaching Hospital (henceforth "KMCTH") in January of 2016. KMCTH was capable of performing fundamental techniques ranging from paraffin block preparation to HE-stained specimen preparation, but since they had never introduced immunohistochemistry techniques, they were unable to diagnose cases such as lymphoma, which was difficult to diagnose with HE-staining alone.

The results of immunohistochemical staining are frequently used to predict prognoses, and to determine therapeutic strategies or operative procedures. Immunohistochemistry currently plays an important role in pathalogical diagnosis. To that end, correct knowledge and technical skill is essential for immunohistochemistry, and it is not an easy technique to introduce.

Objective

The aim of the Department of Pathology of the Kobe University Hospital was to introduce staining techniques in response to the desire for guidance about immunohistochemistry by local pathologists.

Method

■We obtained paraffin blocks previously prepared at KMCTH, then at the Kobe University Hospital we sliced them thinly and prepared both HE-stained specimens and immunohistochemistry specimens in order to understand the quality of the paraffin blocks.

■We estimated the level of local pathology techniques based on those conditions, then we prepared suggestions for improvement of the current situation and planned and implemented guidelines for the future.

Improved

Technical guidance

education

◆Our first step was to introduce CD20, CD3, S100, and CK to the KMCTH operations.
◆We supplied the necessary tools and shipped them to KMCTH.
◆There was no glass that could be used for IHC at the local site, so we showed them a method for coating glass.
◆They used actual specimens from patients suspected of having lymphomas to perform their tests.

Results

■The clinical laboratory technicians at KMCTH were extremely industrious, and were dedicated to improving themselves.
■They were able to make accurate diagnoses.
■They can now determine treatment strategies.

Future plans

■We plan to visit the local area at regular intervals in the future, with the hopes of continuing our technical assistance.
■We want to save as many patient as possible.

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