EVALUATION OF FOREIGN MEDICAL STUDENTS’ ATTITUDE TOWARDS INTER-PROFESSIONAL COLLABORATION IN HEALTH CARE TEAMS

Author: Mirwais Noori

Supervisor: PhD Aušrinė Kontrimienė

KAUNAS, 2019
1. SUMMARY

Background: A good inter-professional relationship is a central aspect of a well-functioning department in any health care facility. Therefore, it is important to encourage inter-professional collaboration already in the years of studying and our investigation might help to better understand foreign medical students’ attitude towards collaboration of health care teams.

Aim: To evaluate foreign medical students of LUHS (Lithuanian University of Health Sciences) attitude towards inter-professional collaboration in health care teams.

Objectives: 1) To evaluate the foreign medical students’ attitude towards inter-professional collaboration. 2) To identify the relation between medical students’ attitude towards inter-professional collaboration and their sociodemographic data. 3) To identify the relation between different foreign medical students’ backgrounds and attitude towards inter-professional collaboration.

Methods: The instrument included “the Attitudes towards health care team scale” and questions regarding sociodemographic data. The survey was distributed in the classrooms, the students participated voluntarily and answered questions anonymously. Data analysis was done using the SPSS program.

Results: A total of 90 students participated in the study from 18 different countries worldwide. The data was divided into three segments for further analysis: quality of care (The majority of participants thought that the team approach improves the quality of care (98,9%), and make the delivery of care more efficient to the patients (86,7%)); team efficiency (only small part of respondents thought that working in teams unnecessarily complicates things most of the time (18.9%)), furthermore, regarding nationality, students with European background statistically significantly less frequently agreed with this statement when comparing to the student’s form Middle east (8 % vs 32,5 %; p<0,05)); shared leadership (majority of our participants thought that a team’s main purpose is to help physicians in achieving treatment goals for the patients (86,7%), furthermore, that physicians are natural group leaders (64,4%)). Regarding gender, females more often statistically significantly agreed that developing a patient care plan with other team members to avoids errors in delivering care, when comparing to males (90,2% vs 67,3 %; p<0,05).

Conclusions: Foreign medical student’s attitudes towards inter-professional collaboration regarding quality of care and team efficiency was positive, however they had a strong perception of physician centrality in teams. Gender and nationality had some statistically significant relation with students’ attitude towards health care teams.
2. ACKNOWLEDGEMENTS

I would like to thank Aušrinė Kontrimienė for the advice and help throughout this final master’s thesis and the participants.
The author reports no conflicts of interest.
4. BIOETHICS PERMISSION

LIETUVOS SVEIKATOS MOKSLŲ UNIVERSITETAS
BIOETIKOS CENTRAS
Kojo 302536989, Tūbinių g. 18, LT-47181, Kaunas, tel.: (8 77) 327213, www.lsmu.lt, el. p.: bioetika@lsmu.lt

Medicinos akademijos (MA) Vienėsų studijų programa – Medicina
VI k. studentė Mirwais Noori
Darbo vadovė asist., Audrina Kontrimiene
LSMU KK Šeimos medicinos klinika

DEL PRITARIMO TYRIMUI

LSMU Bioetikos centr, įvertindavo Mirwais Noori pateiktus dokumentus, studento tiriamajam darbui tema „Evaluation of foreign medical students' attitude towards inter-professional collaboration“ pritaria*.

* Pastaba: šis pritarimas neatsidėjo tiriamajį mokslinių darbų vykdantį asmenį nuo prievolės laikytis Bendrojo duomenų apsaugos reglamento nuostatų ir nuo atsakomybės gauti nacionalinio arba regioninio bioetikos komiteto leidinę, jei toks leidimas būtinas pagal LR Biomedicinių tyrimų etikos įstatyme numatytus reikalavimus.
## 5. ABREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO</td>
<td>World health organization</td>
</tr>
<tr>
<td>IPE</td>
<td>Interprofessional Education</td>
</tr>
<tr>
<td>IPL</td>
<td>Inter-professional Learning</td>
</tr>
<tr>
<td>IPC</td>
<td>Inter-professional collaboration</td>
</tr>
<tr>
<td>RFUMS</td>
<td>Rosalind Franklin University of Medicine and Science</td>
</tr>
<tr>
<td>LUHS</td>
<td>Lithuanian University of Health Sciences</td>
</tr>
<tr>
<td>ATHCTS</td>
<td>Attitudes towards health care teams scale</td>
</tr>
</tbody>
</table>
6. TERMS / GLOSSARY

“Collaboration is an active and ongoing partnership, often involving people from diverse backgrounds who work together to solve problems, provide services, and enhance outcomes” [1].

“Interprofessional collaboration is a type of Interprofessional work involving various health and social care professionals who come together regularly to solve problems, provide services, and enhance health outcomes” [1].

“Interprofessional education “occurs when two or more professions learn with, about, and from each other to enable effective collaboration and improve health outcomes.” (WHO, 2010) [1].

“Interprofessional learning is learning arising from interaction involving members or students of two or more professions. It may be a product of Interprofessional education, or it may occur spontaneously in the workplace or in education settings and therefore be serendipitous “[1].

“Interprofessional teamwork is a type of work involving different health or social care professionals who share a team identity and work together closely in an integrated and interdependent manner to solve problems, deliver services, and enhance health outcomes” [1].

“Team based care is an approach to health care whereby a group of people work together to accomplish a common goal, solve a problem, or achieve a specified result” [1].
7. INTRODUCTION

A good inter-professional relationship is a central aspect of a well-functioning department in any health care facility. If a medical team is unable to work together well, significant problems can arise and ultimately affect the safety and well-being of the patient. It could affect the motivation and collaboration between colleagues, which can lead to misunderstandings and mistakes while treating the patients.

Additionally, a troublesome work environment can have a negative impact on the health care worker’s performance and lead to burnout. Therefore, it is important to encourage inter-professional collaboration already in the years of studying and our investigation might help to better understand foreign medical student’s attitude towards collaboration of health care teams.

In recent years, the concept of inter-professional learning (IPL) has become a significant part of several post and pre-registration of health and social care professional programs in the U.S [1]. The rapid development of IPL activity owes to the fact that social and health care graduates are required to be competent in regards to inter-professional coordinated effort and group working in different settings [2].

Inter-professional collaboration is the procedure in which diverse multidisciplinary groups cooperate to improve healthcare delivery. Research has found that problems concerning the joint effort impact the outcomes of effective care on patients. Further studies highlight other issues such as different understanding and approach to patient care, limited and poor communication, and power structures within the health institutions [3, 4]. Hence, to support the improvement of innovative partnership, there is an increasing emphasis on incorporating comprehension and learning of this theme in educational programs. IPL programs, therefore, seek to improve professional and care relationships [5].

Inter-professional collaboration plays a primary role in the medical services framework, particularly when the patient’s recovery requires the knowledge of various health experts [6]. The team of professionals ranging from physical therapists, nurses, social workers, and pharmacists to physicians have defined roles, and their strengths streamlined to give the best care to the patient [7]. One of the advantages of executing inter-professional training is that the strategy changes how health care professionals interact in their delivery of care [8]. The two strategies concern policy-makers and health care leaders, who strive to ensure that there are no obstructions to implementing collaboration in institutions, health specialists providing care, the instructors laying the foundations for the provision of care in training the professionals, and, in particular, the community and people depending on the service delivery [9]. Also, shifting the
way of thinking and interaction with each other changes health care professionals’ attitudes as well as the organizational culture that in the end improves the staff’s working experience and profits the community as a whole.

Universally, inter-professional learning and collaborative practices are presently viewed as valid techniques that can help relieve the worldwide workforce crisis of health professionals [10]. As a result, the research base and growing evidence continue to affirm that the collaboration of healthcare professionals is useful to health workers’ job satisfaction, communities, and health systems, as it promotes teamwork and improves patients’ health outcome.

IPE is responsible for breaking down the health care learning traditional boundaries. Inter-professional collaboration, therefore, allows students and professionals from different health professions to work together in accomplishing the same goal of improving the health outcomes of patients. Thus, this study pursued to review literature on why it is essential to know the attitude of the health professional students and why inter-professional learning is important in their training. Observing all these evidences, we had the idea of studying how important this field is for our new generations and future doctors. Hence, we decided to make this investigation. In our investigation we will primarily focus on evaluation of foreign medical student’s current attitude toward inter-professional education and collaboration.


8. AIMS AND OBJECTIVES

Aim:
To evaluate foreign medical students of LUHS (Lithuanian University of Health Sciences) attitude towards inter-professional collaboration in health care teams.

Objectives:

1. To evaluate the foreign medical students’ attitude towards inter-professional collaboration.
2. To identify the relation between medical students’ attitude towards inter-professional collaboration and their sociodemographic data.
3. To identify the relation between different foreign medical students’ backgrounds and attitude towards inter-professional collaboration.
9. LITERATURE REVIEW

Due to the importance of IPL and inter-professional collaboration on the delivery of patient care, strategies that support the practice are upheld globally. The World Health Organization (WHO) stipulates creating the collaborative practice that enables healthcare specialists to work with the community, caregivers, families, and patients to deliver high-quality services to the patients together [9]. The professionals engage with any other individual with an educational background and practice in any medical profession that can contribute to the wellbeing of the patient or deliver the desired health objective. WHO, therefore, proposes that the joint effort demands that learning or instructive approaches incorporate collaborative strategies, which empowers professionals to work together to achieve a common goal, purpose, mutual respect, and commitment [11, 12].

Consequently, this training is supported by the World Health Organization and has built up a framework to ensure the practice of inter-professional learning [13]. At the time when there is a shortage of health professionals globally, policymakers seek to find inventive systems that can enable them to create programs and policies to reinforce the worldwide health workforce [14]. Hence, the framework outlines a series of activities that policymakers can apply in their local systems, and distinguishes the instruments that shape effective collaboration. Also, the WHO framework aims to give ideas and strategies, which assists the health care policymakers in actualizing the components of inter-professional collaboration and learning practice that will be most useful in their various distinctive jurisdictions. The organization, therefore, recommends the framework to outline mechanisms that ordinary society pioneers and policymakers can use to start shifting the system globally for the practice of inter-professional collaboration and learning to move forward [15, 16].

Furthermore, a committee report by the American Institute of Medicine recommends that inter-professional policymakers, funders, and stakeholders should commit resources to coordinating a series of learning and training programs designed by the organization [1]. Also, collaborative behaviour and inter-professional education should incorporate concepts to improve service delivery and teamwork in practice. The studies should also focus on creating a broad consensus to assist in measuring effective inter-professional collaboration across distinctive practice settings, the diversified population of patients, and different learning environments.

Additionally, the country’s Health Act must outline an inter-professional learning and collaboration framework that requires all caregivers to work directly with the patients and their
families in service delivery [17]. Thus, the systems for health and education must coordinate their efforts to enable the future workforce to consist of suitably qualified staff, situated in the perfect spot at the opportune time. Also, the various individuals and institutions working within the stipulated framework should help cultivate a healthy atmosphere for the inter-professional joint effort. This implies that health workers and educators must examine the transition from training to the workplace to develop a collaborative practice. Besides, essential principles that can direct the development of inter-professional collaboration and learning practice include collaborative leadership, multilevel framework change, policy integration, and contextual relevance [1]. Likewise, it is vital that the service users, health professionals, and patients cooperate with the practice process.

Similarly, legislation is a crucial instrument through which education and health systems are managed, monitored, and organized. Since legislative changes can impact how health professionals are certified, reimbursed, and educated since legislation affects the sustainability, quality, and execution of inter-professional training and collaborative practice. Therefore, the Institute of Medicine plays an essential role in supporting inter-professional collaboration when government consents to create enactment which removes collaborative effort barriers [1]. With regulation, the diversification enables the policy makers to regulate the health care systems. This is achieved through the recognition and support that the body provides to emerging and new professions, especially those that incorporate a unique blend of abilities [18].

In a study, which sought to report the perceptions of students in their readiness for IPL at a Lebanese American university prior and after completing inter-professional education, it was found that learners take IPL positively [19]. The results from the longitudinal survey that they conducted revealed that being exposed to IPE students’ views on learning were generally favourable, which differed across their professions and gender. As such, females had a stronger professional identity than males while the nutrition and pharmacy students had higher collaboration and teamwork than those in nursing. However, after going through all the IPE steps, students demonstrated enhanced readiness for IPL and contrasts between professions and genders decreased [19]. Also, participants were satisfied and happy with the learning experience and suggested that IPE is of value and should be included in every university’s curriculum.

Nevertheless, IPE should be integrated stepwise systematically in educational programs for undergraduate health professionals [20]. Given this point of view, first-year of education is crucial in building the establishment of inter-professional collaborative practice. In an
investigation of the learning processes of first years and the longitudinal changes of IPE program in a Japanese university, the study showed three perspectives of learners’ learning procedure at various IPE stages [20]. This included forms by which learners became responsible and active students, stressed teamwork enhancement, and developed their inter-professional personalities. Also, the study uncovered the learning forms of first-year students in the year-long IPE program and clarified their role in the overall education module. The findings suggest the cooperation of the students facilitates their central comprehension of teamwork, communication, and character formation in practicing inter-professional collaboration in health.

IPE also provides health students with the chance to find out about the jobs and duties of different professions and develop skills for teamwork and effective communication [21]. In a six-year cohort study, which sought to determine the impact of the composition of student groups on their perception of inter-professional collaboration and teamwork, it was found that broadening the groups’ case scenarios increases their interdisciplinary education perceptions and readiness for professional learning significantly [21]. There were many health professionals who participated on the discussion forums with a broad case-based IPE, which introduced students to other health professions and expanded their insight into the identities of others. However, smaller groups that targeted cases were able to affect the students’ perceptions on the need to work together than larger groups. Therefore, to ensure that all students participate on IPE events, the instructors should concentrate on groupings that intentionally mirror the social setting of healthcare teams [21].

Further studies have also sought to examine existing models for learning to distinguish rising patterns of inter-professional collaboration practice [22]. They found a broad cluster of inter-professional education models and instructive parts with their review recognizing irregularities and weaknesses in how learning exercises are conceptualized, reported, executed, and evaluated. This led them to conclude that there should be clearer particulars to report useful requirements, which are valuable for creating and testing the models that can educate and encourage useful interpretation of inter-professional education’s best practices into academic and clinical practice fields.

In another study by Wong et al. it was found that collaborative practices of health professionals are best when the activities are organized around the served population’s needs and considers the manner of delivering services locally [23]. However, despite a workforce that is ready to practice collaboratively is fundamental to execution, it cannot guarantee optimal services’ provision by itself. Other factors such as the student’s attitudes during training should,
therefore, be considered. Hence, this may assist schools to emphasize participation in extracurricular activities and consider models that enforce IPE when learning that may later affect inter-professional collaboration practice [23].

**IPE in Rosalind Franklin University of Medicine and Science (RFUMS)**

Rosalind Franklin University of Medicine and Science (RFUMS) recognizes inter-professional education and has introduced courses that ensure that the health professionals graduating from the school embrace inter-professional collaboration practice. The university has an IPE course that addresses the challenges raised that are in two phases, namely Inter-professional Teams and Culture in Health Care (HMTD) 500 and HMTD 501. Phase I, HMTD 500, is a one-hour credit course that every student has to pass or fail and presents the students with a practical learning opportunity as they interact with different health professional groups [24]. The learners focus on patient-based care collaborative practice that emphasizes quality improvement, evidence-based practice, service learning, communication, and group interactions.

The course requires learners to attend nine one-and-a-half hour sessions of inter-professional held on Wednesday evening weekly. Out of these, five are dedicated to the learning ideas of inter-professional groups, patient-focused collaborative practices, learning and assessments, different professions (emerging and existing), advocacy, and mistake cases. The rest of the sessions are for achievement celebrations, presentations, preparation, and discussion. Also, two volunteering students direct the class to build up their communication and leadership capabilities. The learning service component, on the other hand, enables the learners to identify community partners and engage in the provision of community services. Every team performs a project and reflects on how to improve it and allows them time for processing lessons learned from their community, and each expected to complete a form for reflection [25]. Service learning course culminates every year with celebrations of accomplishments and sharing of the impacts of health service delivery [26]. Lastly, the clinical component of HMDT 500 is offered to students that are interested with just three students from different program professions attending its four sessions organized at a clinic chosen yearly.

RFUMS offers a second course on health care’s culture (HMTD 501) to students having completed the first phase. The learners remain in similar inter-professional teams formed previously with the classes interwoven with prior dates and have to complete two core projects. The first involves the examination of a student’s education tool about the healthcare culture. The second, on the other hand, comprises of patient-based care variables and the learner's interview different student groups, patients, and professional for their findings. In overall, the
HMTD 500 and 501 course provided at RFUMS centers on sessions held with mentors and other students’ feedbacks [27].

**IPE in Medical School University of Michigan**

In comparison, Michigan’s medical school offers interdisciplinary health courses that cover the following fields, namely dentistry, pharmacy, medicine, public health, nursing, food and nutrition, and social work. Also, the university’s course catalog incorporates several collaborative inter-professional practices for all students in the health profession. These courses support the learners in their learning and provide a framework that professionals from different backgrounds can learn and acquire knowledge on inter-professional collaboration [28]. Moreover, the institution has encompassed experiential training exercises and co-curricular service learning in the coursework that it provides. Since the provision of healthcare involves teams, students should endeavor to acquire collaborative practices to enable them to deliver quality services in the future [29].

University of Michigan’s curriculum integrates inter-professional education in all four years. However, inter-professional learning experiences continue to expand. Also, to enable collaboration between learners across all of schools offering health professional courses, every school designates time for IPE courses and other opportunities [30].
<table>
<thead>
<tr>
<th>Course</th>
<th>Competency (Objective)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction to IPE</td>
<td>Introduces first-year students to inter-professional collaboration and learning practice [30].</td>
</tr>
<tr>
<td>2. Inter-professional Clinical Experience</td>
<td>Introducing clinical practice, health care team, clinical sites, and health care systems to medical students early in their career [30].</td>
</tr>
<tr>
<td>3. Geriatric Medicine – Team-Based Approach</td>
<td>Provides geriatric training to pharmacy and medicine students to increase their knowledge of geriatric medicine and strengthen inter-professional collaborative practice. They work on cases requiring a team-based approach when determining the disposition, differentials, and plan, differentials [30].</td>
</tr>
<tr>
<td>4. Service Learning</td>
<td>Is a service-based health professional course that explore issues encountered by professionals while delivering patient care [30].</td>
</tr>
<tr>
<td>5. Breaking bad news</td>
<td>This is a standardized patient interaction course and identifies the roles of each health care professional in breaking bad news.</td>
</tr>
<tr>
<td>6. Clinical decision-making</td>
<td>Entails a team-based approach of collaborative decision making and is designed for social work, pharmacy, medicine, dentistry, and nursing students [30]. The course bolsters the students’ understanding of the contribution of health care specialist, team, and effective communication in making decisions.</td>
</tr>
</tbody>
</table>
7. Ethical dilemma courses for health professions

These are graduate-level courses that help protect human rights, ensure equity in delivery of care, and bioethics related to health care [30].

8. Patient safety and quality improvement course

Nursing, medicine, and dentistry students are introduced to scientific problem solving methods, treatment, and diagnosis of patients [30].

Cambridge Medical School

At Cambridge University, IPE requires clinical students to first study medical sciences, before learning collaborative practice application of that knowledge [31]. Hence, the students learn pre-clinical studies in their first three years that incorporates supervisions, practical classes, and lectures timetabled for 20-25 hours a week. In years 4-6, the students learn clinical studies on clinical settings that range from surgeries, outpatient clinics, and at the patient’s bedside that is supported by discussion groups, tutorials, and seminars that clearly indicate the various collaborative practices. In addition to the school curriculum, the prescribers of the university’s IPE program incorporate exchange programs. For instance, Cambridge’s third-year medical students exchange program with nursing students from Anglia Ruskin University [32].

Harvard Medical School

Educational activities at the institution are designed to include core competencies to enable inter-professional collaborative practices. Therefore, its educational programs seek to advance the core mission of the school, which is to nurture a group of leaders who are diverse to help alleviate the sufferings of humans and build future leaders for the healthcare system. As such, the school has DICP (Diversity Inclusion and Community Partnership) office, which advances diversity inclusion in behavioural, biomedical, and health fields to build institutional and individual capacity to work together, ensure equity, foster innovation, and improve health outcomes at the local, national, and global levels [33]. Also, the DICP office is tasked to lead the mentorship program across all Harvard’s medical schools, which helps students learn collaborative practices that improve patient care.

Additionally, the institution launched a scholarly and clinical course in 2015 to provide health care to people with diverse sex development, gender expression, and sexual orientation [34]. The course is an advanced four-week training for medical students through with their pre-
clinical training to ensure that they collaboratively provide high-quality care without discrimination.

10. RESEARCH METHODOLOGY AND METHODS

Study sample

Study participants were foreign medical students from the 6th year. The data was collected by self-report questionnaires. The study was conducted among 90 foreign students at LUHS. The participants were from 18 different countries worldwide. The survey was distributed in the classrooms in person, the students participated voluntarily and answered questions anonymously.

The instrument of the study

A Sociodemographic part, which consisted of total 8 questions, with the main focus being to obtain sociodemographic information as well the current experience of participants on working in health care departments, whether they had any education of IPC, what kind of experience they had of IPC in their home countries, and opinion on what is the reason of a bad or good IPC in healthcare in their home countries.

Attitudes towards health care teams scale created by Heinemann, Schmitt, Farrell with their permission of scales’ usage. The 21-item ATHCTS form was used, which consisted of 3 subscales: (1) quality of care; (2) Team value (costs of team care) (3) Physician Centrality (see Table 1). The responses for the items range from (1) strongly disagree; to (6) strongly agree.

Statistical data analysis was performed using data acquisition and analysis package program SPSS (SPSS version 25.0).
11. RESULTS

11.1 SOCIODEMOGRAPHIC DATA

In total there were 90 participants of which 49 were males and 41 females. Majority of respondents (n=50) were from Europe. Whereas 36 of participants were from Asia and 4 from the rest of the world. The majority of respondents were between 24 and 25 years old. Moreover, 42% respondents have not been working in any health care department. The other 58% have been working in some sort of healthcare departments, furthermore, 68.9% of respondents did not have any education of inter-professional collaboration, while 31% had. Those students (22%) who had such education were from Europe (Table 11.1.). Half of respondents had a good experience of collaboration among physicians and nurses in their home country, 11% of respondents had an excellent experience while 40% had average, poor to no experience (picture 11.1.3).

Table 11.1. Sociodemographic data of study participants.

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Total</th>
<th>Europe</th>
<th>Asia/ME</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>49</td>
<td>54,4</td>
<td>25</td>
<td>27,8</td>
</tr>
<tr>
<td>Female</td>
<td>41</td>
<td>45,6</td>
<td>25</td>
<td>27,8</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>100,0</td>
<td>50</td>
<td>55,6</td>
</tr>
<tr>
<td>Age</td>
<td>Mean</td>
<td>24,7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you worked in any health care department?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>52</td>
<td>57,8</td>
<td>28</td>
<td>31,1</td>
</tr>
<tr>
<td>No</td>
<td>38</td>
<td>42,2</td>
<td>22</td>
<td>24,4</td>
</tr>
<tr>
<td>Did you have any education of inter-professional collaboration beside studies?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>28</td>
<td>31,1</td>
<td>20</td>
<td>22,2</td>
</tr>
<tr>
<td>No</td>
<td>62</td>
<td>68,9</td>
<td>30</td>
<td>33,3</td>
</tr>
</tbody>
</table>

Students with European background statistically significantly had IPE more often than students from Asia/Middle East (40% vs 20 %; p<0,05). (Table 11.1.2) Concerning other sociodemographic data, there were no statistically significant differences.
Table 11.1.2 Sociodemographic data of study participants regarding gender and nationality (M- male; F- Female; ME- Middle East). (Good and Excellent experience counted together.)

<table>
<thead>
<tr>
<th>Have you worked in any health care department?</th>
<th>Nationality</th>
<th>Gender</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M (n)</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>Europe</td>
<td>28</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Asia/ME</td>
<td>0.249</td>
<td>0.042</td>
</tr>
<tr>
<td>Did you have any education of inter-professional collaboration beside studies?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Europe</td>
<td>11</td>
<td>22.4</td>
</tr>
<tr>
<td></td>
<td>Asia/ME</td>
<td>0.052</td>
<td>0.042</td>
</tr>
<tr>
<td>What is your experience of collaboration among physicians/ Nurses and other health professionals in your country?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good/Excellent experience</td>
<td>Europe</td>
<td>32</td>
<td>65.3</td>
</tr>
<tr>
<td></td>
<td>Asia/ME</td>
<td>0.053</td>
<td>0.053</td>
</tr>
<tr>
<td>In your opinion what is the reason of a bad inter-professional collaboration in healthcare in your country?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of communication skill</td>
<td>Europe</td>
<td>22</td>
<td>44.9</td>
</tr>
<tr>
<td></td>
<td>Asia/ME</td>
<td>0.568</td>
<td>0.568</td>
</tr>
<tr>
<td>Lack of IPE</td>
<td>Europe</td>
<td>11</td>
<td>22.4</td>
</tr>
<tr>
<td></td>
<td>Asia/ME</td>
<td>0.237</td>
<td>0.237</td>
</tr>
<tr>
<td>What is the most important interpersonal skill someone needs to be successful in this field?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good communication skill</td>
<td>Europe</td>
<td>30</td>
<td>61.2</td>
</tr>
<tr>
<td></td>
<td>Asia/ME</td>
<td>0.199</td>
<td>0.199</td>
</tr>
</tbody>
</table>

Statistically significant differences when p <0.05

![What is your experience of collaboration among physicians/Nurses and other health professionals in your country?](chart.png)

Picture 11.1.3 Survey participant’s sociodemographic data regarding experience of IPC (%).

Almost half of the participants (43%) believed that “lack of communication skill” is the reason of a bad IPC in their home country, while 26,7 % thought lack of IPC education was the case and 14,4 % believed lack of adaptation was the reason (Picture 11.1.4).
More than two thirds of participants (71%) believed that good communication skills are the most important interpersonal skill someone need to be successful in IPC, while 17.8% and 7.8% respectively believed knowledge of duties and honesty are most important (Picture 11.1.5).

**Picture 11.1.4.** Survey participant’s opinion regarding bad IPC (%).

**Picture 11.1.5** Survey participant’s opinion regarding required skills to be successful in IPC (%).
11.2 STUDENTS ATTITUDE TOWARD HEALTH CARE TEAMS

The questions were grouped into three larger groups of questions regarding the recommendations of the scale authors [36]:

- Quality of care;
- Team efficiency;
- Shared leadership.

11.2.1 QUALITY OF CARE

In the study we had 11 questions concerning team value or quality of care, with the majority of respondents agreeing with 10 statements regarding quality of care, meaning that the attitudes of foreign medical students at LSMU are positive towards IPC and team care (Picture 11.2.1).

The majority of participants thought that a team approach improves the quality of care (98,9%), and makes the delivery of care more efficient to the patients (86,7%). As well as working on a team helps team members to better understand (90%), foster communication and respect the work of other health professionals (83,3%). Furthermore, our participants believed that by working in teams the give and take among team members helps the team to avoid errors (77,8%), and make a better patient care decision (82,2%), meet the needs of family, caregivers and patients (84,4%). As well as the fact that the patient is better prepared for discharge (75,6%), in comparison to other patients. Most importantly working in teams keeps most health professionals enthusiastic and interested in their jobs (77,8%). Moreover, more than half of participants, (65,6 %) agreed on that patients receiving team care are more likely treated as whole person, and one third of participants (34,4 %) agreed on that health professionals working on teams are more responsive than other to the emotional and financial needs of patient, while majority of the participants disagreed on this.
Picture 11.2.1. Study participants’ responses regarding team value (%).

11.2.2 TEAM EFFICIENCY

Another aspect, which was important in the investigation was to evaluate the foreign medical students’ opinion regarding time constraints when working in teams and there were 5 questions in this segment (Picture 11.2.2).

Data analysis showed that the majority of our international participants disagreed in many statements regarding time constraints. Agreement of respondents on, when developing interdisciplinary patient care plans much time is wasted translating jargon from other disciplines (27,8 %), and developing interdisciplinary patient care plan (24,4%), time required for meetings (27,8 %), and working on teams unnecessarily complicates things most of the time
Furthermore, only a small part (13.3%) of respondents believed that patients are less satisfied with their care when it is provided by a team.

**Picture 11.2.2.** Study participants’ responses regarding team efficiency(%).

![Team Efficiency Chart](image)

**11.2.3 SHARED LEADERSHIP**

We wanted to evaluate the student’s attitudes toward shared leadership, equality among team’s members and physician centrality in a healthcare team. There were 5 questions regarding this (see picture 11.2.3).

The result conducted demonstrates that majority of our participants thought that a team’s main purpose is to help physicians in achieving treatment goal for the patients (86.7%). Furthermore, participants agreed on the question that physicians are natural group leaders (64.4%), as well as the fact that physicians can alter care plans of patients developed by the team (63.3%). Moreover, that ultimate legal decisions made by a team is physicians responsibility (68.9%). On the other hand, more than half of participants though that physicians must not always have the ultimate power of decision making in a health care team (51.1%).
11.3 RELATION BETWEEN GENDER AND STUDENTS ATTITUDE TOWARDS QUALITY OF CARE

The data analysis showed that students thought team meetings foster communication among team members from different disciplines (83.3%). Moreover, females statically significantly more often agreed with statements when comparing to males (95.1% vs 73.5%; p<0.05) (Table 11.3.1).

Furthermore, the majority of participants agreed that developing a patient care plan with other team members avoids errors in delivering care (77.8%), moreover females more often statistically significantly agreed when comparing to males (90.2% vs 67.3%; p<0.05). Concerning other questions about quality of care, there were no other statistically significantly differences.
Table 11.3.1 Data of study of participants with significant difference.

<table>
<thead>
<tr>
<th></th>
<th>Gender</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td><em>The team approach improves the quality of care to patients.</em></td>
<td></td>
<td>48</td>
<td>98</td>
<td>41</td>
<td>100</td>
</tr>
<tr>
<td>Having to report observations to the team helps team members better understand the work of others health professionals.</td>
<td></td>
<td>43</td>
<td>87.8</td>
<td>38</td>
<td>92.7</td>
</tr>
<tr>
<td>The team approach makes the delivery of care more efficient.</td>
<td></td>
<td>44</td>
<td>89.8</td>
<td>34</td>
<td>82.9</td>
</tr>
<tr>
<td>The team approach permits health professionals to meet the needs of family caregivers as well as patients.</td>
<td></td>
<td>41</td>
<td>83.7</td>
<td>35</td>
<td>85.4</td>
</tr>
<tr>
<td>Team meetings foster communication among team members from different disciplines.</td>
<td></td>
<td>36</td>
<td>73.5</td>
<td>39</td>
<td>95.1</td>
</tr>
<tr>
<td>The give and take among team members helps them to make better patients care.</td>
<td></td>
<td>39</td>
<td>79.6</td>
<td>35</td>
<td>85.4</td>
</tr>
<tr>
<td>Working on a team keeps most health professionals enthusiastic and interested in their jobs.</td>
<td></td>
<td>37</td>
<td>75.5</td>
<td>33</td>
<td>80.5</td>
</tr>
<tr>
<td>Developing a patient care plan with the other team members avoids errors in delivering care.</td>
<td></td>
<td>33</td>
<td>67.3</td>
<td>37</td>
<td>90.2</td>
</tr>
<tr>
<td>Hospital patients who receive team care are better prepared for discharge than other patients.</td>
<td></td>
<td>38</td>
<td>77.6</td>
<td>30</td>
<td>73.2</td>
</tr>
<tr>
<td>Patients receiving team care are more likely than other patients to be treated as whole persons.</td>
<td></td>
<td>36</td>
<td>73.5</td>
<td>23</td>
<td>56.1</td>
</tr>
<tr>
<td>Health professionals working on teams are more responsive than other to the emotional and financial need of patients.</td>
<td></td>
<td>18</td>
<td>36.7</td>
<td>13</td>
<td>31.7</td>
</tr>
</tbody>
</table>

Statistically significant differences when p <0.05

11.4 RELATION BETWEEN NATIONALITY AND STUDENTS’ ATTITUDE TOWARDS TEAM EFFICIENCY AND SHARED LEADERSHIP

The data analysis showed that students thought that working in teams unnecessarily complicates things most of the time (18.9 %), moreover, students with European background statistically significantly less frequently agreed with this statement when comparing them to the student’s form Middle east (8 % vs 32.5 %; p<0.05) (Table 11.4.1).

Concerning other questions about team efficiency and shared leadership, there were no further statistically significant differences.
Table 11.4.1 Data of study of participants with significant difference.

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Europe</th>
<th>Asia/Middle East</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>A team’s primary purpose is to assist physicians in achieving treatment goals for patients.</td>
<td>41</td>
<td>82</td>
</tr>
<tr>
<td>The physician has the ultimate legal responsibility for decisions made by the team.</td>
<td>31</td>
<td>162</td>
</tr>
<tr>
<td>Physicians are natural team leaders.</td>
<td>32</td>
<td>64</td>
</tr>
<tr>
<td>Physicians have the right to alter patient care plans developed by the team.</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>The physicians should not always have the final word in decisions made by health care teams.</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>In most instances, the time required for team meetings could be better spent in other ways.</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>When developing interdisciplinary patient care plans much times is wasted translating jargon from other disciplines.</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>Developing an interdisciplinary patient care plan is excessively time consuming.</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Working on teams unnecessarily complicates things most of the time.</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

Statistically significant differences when $p < 0.05$
12. DISCUSSION

We identified and evaluated relations between sociodemographic factors and different foreign medical student’s attitudes towards IPC. In the study the opinion of our participants regarding inter-professional learning was positive, were ¼ of participants believed that lack of Interprofessional education has been one of the main reasons of a bad inter-professional collaboration in their countries. Furthermore, the majority of our participants did not have any inter-professional education during their studies regarding IPC, however the Interprofessional collaboration course was introduced in 2017 for the third-year Lithuanian medical students at LUHS [35]. In comparison to different backgrounds, students from Europe had more access to IPE than Asians students and females statistically significantly had IPE more often than males.

Similarly, Michigan’s medical school offers interdisciplinary health courses that include the following programs: dentistry, pharmacy, medicine, public health, nursing, food and nutrition, and social work. Also, the university’s course catalogue incorporates several collaborative inter-professional practices for all students in health professions. These courses support the students and provide a framework that professionals from different backgrounds can learn and acquire knowledge on inter-professional collaboration [28].

Additionally, the majority of students had practice of working in healthcare departments and had been exposed to inter-professional collaboration, where more than half of students had a good experience of IPC among their healthcare professionals in their respective countries; statistically significantly males had a better experience of IPC compared to females. However, two fifth of students had average/poor experience of IPC. Moreover, the majority of participants believed that a good communication skill is essential to be successful in IPC. Research has found that problems concerning the joint effort impacts the outcomes of effective care on patients, negatively. Further studies highlight other issues such as different understanding and approach to patient care, limited and poor communication, and power structures within the health institutions [3, 4]. Other studies affirm that inter-professional learning positively changes the way health care professionals interact in their delivery of care [8]. Therefore, it is essential for students to have IPE during medical studies and develop a better understanding of IPC in order to prevent bad experience regarding IPC, which could ultimately affect the outcome of patient care.

Regarding quality of care the main insight of students regarding IPC was promising, where their opinion concerning team value were very positive. The majority believed that working in teams and team approach improves the quality of care and makes the care more
efficient for the patients. Furthermore, majority of students thought that team meetings foster communication among team members and helps the team to avoid errors and make better decisions for patients. Moreover, females statically significantly more often agreed with these statements, when comparing to males.

This opinion is mirrored in a six-year cohort study, which sought to determine the impact of the composition of student groups on their perception of inter-professional collaboration and teamwork. It was found that IPE also provides health students with the chance to find out about the jobs and duties of different professions and develop skills for teamwork and effective communication [21]. Before the adoption of inter-professional collaborative practices, healthcare professionals would just consider patients’ charts and review history of their treatments. Since they worked independently, most often the needs of patients were miscommunicated or symptoms missed. However, with an increase in collaboration among medical professionals, they can interact with patients at a personal level, share treatment ideas, and work together to improve the health outcomes.

A study at a Lebanese American University sought to report the perception of students in their readiness for IPL. It was found that learners take IPL positively [19]. Also, participants were satisfied and happy with the learning experience and suggested that IPE is of value and should be included in every university’s curriculum. In another study by Wong et al. it was found that collaborative practices of health professionals are best when the activities are organized around the served population’s needs and considers the manner of delivering services locally [23]. Moreover, in a study at a Japanese University, the findings suggest the cooperation of the students facilitates their central comprehension of teamwork, communication, and character formation in practicing inter-professional collaboration in the health sector. [20].

The participants believed also that a patient is treated as a whole and is better prepared for discharge when receiving care from a team in comparison to other patients. Most importantly, working in teams keeps most health professionals enthusiastic and interested in their jobs. The research base and growing evidence continue to affirm that the collaboration of healthcare professionals is useful to health workers’ job satisfaction, communities, and health systems, as it promotes teamwork and improves patients’ health outcome. [10].

The attitudes of students towards team efficiency were also encouraging, where majority disagreed with the statements regarding time constrains when working in teams. In general, they thought that meetings and working in teams, as well as developing interdisciplinary patient care plans, are not considered as waste of time. Also working in teams does not complicate things most of the time. However, students with European background
statistically significantly more frequently agreed with this statement, when compared to the students from the Middle East (p<0.05). Furthermore, they believed that a patient is more satisfied, when the care is provided by a team.

Concerning shared leadership or physician’s centrality, majority of students’ thought that physicians are natural group leaders in a team and the team’s main purpose is to help physicians in achieving treatment goals for the patients. Hence, a large part of participants agreed that physicians have the right to alter patient care plans developed by the team. Additionally, students from the Middle East statistically significantly more often agreed with this statement compared to students from Europe. However, the majority of our participants thought that physicians must not always have the final word in decisions made by health care teams. While in some environments doctors are still considered to be main leaders of patient care, it is undoubted that IPL and collaborative practice development has enabled other health professionals to participate and be leaders during patient care delivery. Recommendations provided by radiologists, social workers, nurses, and other health experts facilitates the delivery of a comprehensive patient care. This forms a more comprehensive perspective of patient care, which is easier when members from different health professions work jointly as a team [19]. Also, bringing different disciplines together helps to increase the understanding of the needs of patients [23].

Universally, inter-professional learning and collaborative practices are presently viewed as valid techniques that can help relieve the worldwide workforce crisis of health professionals. Due to the importance of IPL and inter-professional collaboration on the delivery of patient care, strategies that support the practice are upheld globally. The World Health Organization (WHO) stipulates to create the collaborative practice that enables healthcare specialists to work with the community, caregivers, families, and patients to deliver high-quality services to the patient together [9]. The world health organization has built a framework to ensure the practice of IPL. Therefore, they recommend the framework to outline mechanisms that ordinary society pioneers and policymakers can use to start shifting the system globally for the practice of inter-professional collaboration and learning to move forward [13,15, 16].

The attitude of foreign medical students is positive towards IPC and their view regarding IPL; they understand the importance of it. Even though the majority our foreign medical students did not have any education during their studies regarding IPC, they still believed that team work and collaboration among health care professionals is essential for an effective and better healthcare delivery. Students understand that Inter-professional collaboration, therefore, allows students and professionals from different health care sectors to work together in
accomplishing the same goal of improving the outcomes of patient’s care. Studies reveal that inter-professional collaboration empowers health professionals to work together [20, 22].

Inter-professional collaboration and inter-professional learning is globally supported, and recommended by WHO. WHO has built a framework, which is recommended globally for society pioneers and policymakers to use for the practice of inter-professional collaboration and learning to move forward. American Institute of Medicine states that in recent years, the concept of inter-professional learning (IPL) has become a significant part of several post and pre-registration of health and social care programs in the U.S. Hence, they recommend that inter-professional policymakers, funders, and stakeholders should commit resources to coordinating a series of learning and training programs designed by the organization. [1]. Furthermore, many universities worldwide have implemented the Inter-professional education (IPE) in their medical educational programme, (Michigan’s medical school, Rosalind Franklin University of Medicine and Science, Lebanese American University). Their students were very satisfied and happy with learning experience and suggested that IPE is of value and should be included in every university’s curriculum.

LUHS has implemented the IPE course for Lithuanian medical students, but the course has not been done for the foreign students at LUHS. In our study we have observed that the majority of our participants did not have any education regarding IPC, during their studies and furthermore, statistically significantly students from Asia and the Middle East had less access to it. Students also demonstrated rather strong perception of physician centrality in the team, which raises the concern of rather low perception of the shared leadership principles in delivering health care services. Thus, this research demonstrates, that it is worth knowing LUHS foreign medical students’ attitude towards health care teams and that Interprofessional collaboration and Interprofessional learning training should be considered for inclusion in their training process.
13. CONCLUSIONS

1. Foreign medical student’s attitudes towards health care teams was positive in all three question segments: quality of care, shared leadership and team efficiency. Questions regarding quality of care were evaluated positively: the majority believed that working in teams and team approach improves the quality of care and makes the care more efficient for the patients. The segment of shared leadership demonstrated rather strong perception of physician centrality: the majority of students thought that physicians are natural group leaders and the team’s main purpose is to help physicians in achieving treatment goals for the patients. The attitudes of students towards team efficiency was positive, where the majority disagreed with the statements regarding time constrains when working in teams.

2. Sociodemographic data regarding age and previous work experience did not reveal statistically significant differences. However, regarding nationality, Students with European background statistically significantly had IPE more often than students from Asia/Middle East p<0,05. Furthermore, one-fourth (1/4) of participants believed that lack of Interprofessional education has been one of the main reasons of a bad interprofessional collaboration in their countries. The foreign medical students believed that team work and collaboration among health care professionals is essential for an effective and better healthcare delivery.

3. Students’ attitude towards health care teams had a statistically significant relation regarding gender and nationality. Regarding gender, females more often statistically significantly agreed that developing a patient care plan with other team members avoids errors in delivering care, and team meetings foster communication among team members from different disciplines when comparing to males; p<0,05). Furthermore, regarding nationality, students with European background statistically significantly less frequently agreed that working on teams unnecessarily complicates things most of the time when comparing to the students’ form Middle East; p<0,05).
14.RECOMMENDATION

1. LUHS has implemented the IPE course for Lithuanian medical students, but the course has not been introduced for the foreign students at LUHS. In our study we have observed that the majority of our participants did not have any education regarding IPC during their studies. Therefore, inter-professional learning and inter-professional collaboration should be considered for inclusion in their training process.

2. Medical and nursing students at LUHS should have the possibility to have a collaboration course during their studies for a better inter-professional collaboration.
15. References


31. Medicine | Undergraduate Study [Internet]. Undergraduate.study.cam.ac.uk. 2019 [cited 6 March 2019]. Available from: https://www.undergraduate.study.cam.ac.uk/courses/medicine


33. The Office for Diversity, Inclusion, and Community Partnership at Harvard Medical School [Internet]. 2019 [cited 6 March 2019]. Available from: https://mfdp.med.harvard.edu/
