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SHADES OF INTERPROFESSIONAL EDUCATION: ITS READINESS AND CHALLENGES.

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Abstract

BACKGROUND: Interprofessional education (IPE) occurs when health professionals from diverse disciplines learn with, from and about each other. [1] In a changing healthcare system, the ways services are provided require matching changes in the training. Students should be prepared with new learning experience of IPE.Universities should determine the readiness of students for IPE by using Readiness for interprofessional learning scale (RIPLS).[2]

AIMS: The aims of this paper were to present

(a) the different aspects of IPE and challenges in IPE
(b) the readiness for IPE by students determined in two original studies done by author and RIPLS,
(c) suggested recommendations.
(d)

METHODS:

(1) Literature search on IPE.

(2) two original studies done by Author presented in brief.

a. Aims: to determine the readiness for IPE. First study in medical undergraduates at (one) private and (one) public university in Malaysia. Second study among students from three Faculties of health sciences at (one) private university.

b. Methods: Both studies each, were cross sectional. Convenience sampling was done in both, using Readiness for interprofessional learning scale (RIPLS). Descriptive and inferential statistics were used to analyse data.

RESULTS:

In the first study, all (361) medical students in public (231, with respondent rate of 100%) and private university (130, with respondent rate of 99.2%) were IPE ready with total mean score of (80.58) Private and (81.19) Public respectively. Similarly, in the second study the students were a total of 158, with respondent rate 100%. There was no statistically significant mean score differences among the students from three Faculties using ANOVA tests, indicating an equal level of readiness for IPE with RIPLS scores ranging from 83.4 to 84.56.

The goals and benefits of IPE & the Challenges to IPE were presented.

CONCLUSIONS: IPE readiness, helps to facilitate integration of IPE into current curricula.

RECOMMENDATIONS for implementation of IPE were suggested.

Keywords: Challenges, Interprofessional Education (IPE), Readiness for Interprofessional learning Scale (RIPLS), Recommendations

I.INTRODUCTION

Interprofessional Education (IPE) is an important approach for preparing health professions students to provide patient care in a collaborative team environment. In a changing healthcare system, the ways services are provided require matching changes in the training. Students should be prepared with new learning experience of IPE in timely fashion. IPE had been defined as: **"When students from two or more professions learn about, from, and with, each other to enable effective collaboration and improve health outcomes ".** [1] The reason why we need Interprofessional Education is because we want new models of health care delivery in the context of an increasing ageing population, the increasing prevalence of long-term chronic disease and the patient safety agenda. Currently health professionals were trained with traditional IN SILO way, which had led to fragmentation of patient care.

I.i. Goals of IPE - are designed for the student to learn how to function in an interprofessional team and provide interprofessional patient care in a collaborative team.

I.ii. Significance of IPE is Collaborative learning [3] / Practice which is MOST desirable. ANY medical or allied health professionals that engage with patient can be involved & important in IPE. They can be from Nursing, Medicine, Pharmacy, Social work, Nutrition, Physical therapy, Occupational therapy, Counselling, Physician assistant, Dentistry, Emergency Medical services, paramedic, radiology professional and respiratory care professional etc.

I.iii.The benefits of IPE are manifold. It, Empowers Team members; Closes communication gaps; Enables comprehensive patient care; Minimizes hospital readmission rates; Promotes a team mentality; and

Promotes patient - centred care. Patient Centred Care is organized around the comprehensive needs of the persons and not around the individual diseases. Dr *Margaret Chen, the Director-General of the WHO* [4] *had reaffirmed that* "The primary health care approach is the most efficient and cost-effective way to organize a health system." IPE and Interprofessional collaborative practice form an integral part in Primary Health Care (PHC).

II.READINESS FOR INTERPROFESSIONAL EDUCATION

The success of IPE hinges on the readiness of healthcare professional students to learn and apply the concepts. It has been adapted in many institutions (over 200 plus) globally. Readiness for IPE studies had been reported from Malaysia from UNIVERSITY OF MALAYA (2011) [5] , INTERNATIONAL MEDICAL UNIVERSITY (2015) [6], MELAKA MANIPAL MEDICAL COLLEGE (2018) [7], ASIA METROPOLITAN UNIVERSITY (2020). [8 &9].

AIM AND OBJECTIVE

The Aims of this study were to present

(a) the different aspects of IPE and challenges in IPE

(b) the readiness for IPE by students determined in two original studies done by author and RIPLS, (c) suggested recommendations**.**

MATERIALS AND METHODS

A literature search on various aspects of Interprofessional Education and Collaborative Practice had been done on Google search.

The READINESS FOR INTERPROFESSIONAL LEARNING SCALE (RIPLS) is a 19 item Likert scale survey with a score range of 19-95. High RIPLS scores are reflective of a high level of readiness for interprofessional learning.
The RIPLS has four domains (subscales).
1. Team work and collaboration- High scores on this domain means there is agreement to the idea that working in teams and collaborating with other professionals in the healthcare sector is important.
2.Negative professional identity-high scores indicate that the respondent does not see the value in learning through collaboration with their fellow health care professional
3.Positive professional identity-high scores indicate that the respondent sees the value of sharing their knowledge and experiences with their fellow health care professionals.
4 Roles and responsibility-indicates confusion with regard to the role of respondents and that of others. *(The Cronbach Alpha value for the total scale is (0.86). indicating a high level of internal consistency and test reliability of 0.62)*
Two studies on Readiness for IPE, by author, eight months apart in 2019. Will be quoted in brief.
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STUDY 1.[8]
a. Aim: to determine the readiness for IPE.in medical undergraduates at (one) private and (one) public university in Malaysia

STUDY 2.[9]
a. Aim: to determine the readiness for IPE among students from three Faculties of health sciences at (one) private university.

b. Methods: Both studies each, were cross sectional. Convenience sampling was done in both, using Readiness for interprofessional learning scale (RIPLS). Descriptive and inferential statistics were used to analyse data.

RESULTS:

STUDY 1. In the first study, all (361) medical students in public (231, with respondent rate of 100%) and private university (130, with respondent rate of 99.2%) were IPE ready with total mean score of (80.58) Private and (81.19) Public respectively.

Table X. Total mean scores of items of RIPLS at two Medical Universities

Items	Subscale	Private	Public
1-9	Teamwork & Collaboration	38.55	38.97
10-12	Negative Professional Identity	13.04	13.03
13-16	Positive Professional Identity	17.35	17.31
17-19	Roles and Responsibilities	11.64	11.88

Total Mean Score	80.58	81.19

(Source: Aye SS, Noor MAM et al 2020 Readiness for interprofessional Education amongst students at Public and Private Medical Universities in Malaysia. Cypriot Journal of Educational Sciences 15(6),00.00.) [8]

Table xx: RIPLS Subscale Mean Scores for Different Year Levels(n=361)

RIPLS subscale	Year 1 Mean(SD)	Year 2 Mean(SD)	Year 3 Mean(SD)	Year 4 Mean(SD)	Year 5 Mean(SD)	p-value
Subscale 1: Teamwork and Collaboration	36.31(5.4)	38.57(3.04)	38.76(3.59)	38.91(3.75)	39.16(3.93)	p<0.001
Subscale 2: Negative professional identity	9.67(3.44)	10.80(2.24)	10.89(3.31)	11.52(1.95)	11.78(2.77)	p=0.003
Subscale 3: Positive professional identity	16.30(2.27)	16.59(1.85)	16.80(2.28)	17.13(2.01)	17.22(1.97)	p=0.289
Subscale 4: Roles and Responsibilities	8.24(1.97)	8.31(2.07)	8.81(1.88)	9.34(2.12)	9.44(2.68)	p=0.008

(Source: Aye SS, Noor MAM et al 2020 Readiness for interprofessional Education amongst students at Public and Private Medical Universities in Malaysia. Cypriot Journal of Educational Sciences 15(6),00.00.) [8]

IMPLICATIONS: The second table from Study 1, Table xx, showed that the Year 1 students had lower mean RIPLS scores as compared to Year 5 students in 3 of the four domains which were statistically significant.

STUDY 2. Similarly, in the second study the students were a total of 158, with respondent rate 100%. There was no statistically significant mean score differences among the students from three Faculties using ANOVA tests, indicating an equal level of readiness for IPE with RIPLS scores ranging from 83.4 to 84.56. Thus, it can be said that the students from the three faculties, were ready for IPE.

Table xx: RIPLS p-value Scores in Each of the Three Faculties (ANOVA test)

RIPLS ITEM/subscale	*p-values* scores	Nursing Mean(SD)	Medicine Mean(SD)	Healthcare Management Mean(SD)
Subscale 1: Teamwork and collaboration	0.459	4.73 (0.36)	4.81(0.39)	4.76 (0.33)
Subscale 2: Negative Professional Identity	0.259	4.19 (0.28)	4.22 (0.34)	4.17 (0.35)
Subscale 3: Positive Professional Identity	0.200	4.26 (0.45)	4.31(0.37)	4.25(0.40)
Subscale 4: Roles and Responsibilities	0.263	3.72(0.30)	3.79 (0.33)	3.70 (0.28)
Total RIPLS Score		83.34	84.56	83.45

(Source: Aye SS & Marzo RR 2020 Readiness for interprofessional education at Health Sciences: A study of

educational technology perspectives. World Journal on Educational Technology. Current Issues.12(3),207-216.)[9]

Both the studies (Study 1 and Study 2) had deemed the respective students to be ready for IPE.

III. DISCUSSION

i. Readiness studies.

From the findings of STUDY 1[8] , Table x, it can be said that students showed a favourable attitude towards teamwork and collaboration, regardless of their year level. Based on the results of the Teamwork and Collaboration subscale, the majority also recognized the value of collaborating with other healthcare professionals in their line of work. These indicate that the students are open to the idea of group learning, as well as support the findings of Keshtkaran Z [10]. The low scores of students on the Negative Professional Identity subscale and high scores in the Positive Professional Identity subscale are further proof that students understand the value of IPE and learning in groups, particularly with students of other healthcare programs. On the other hand, the scores of students in the Roles and Responsibilities were on the extreme ends. In particular, some students clearly understood their roles as well as that of others, while the rest did not. To be precise, those in their fifth year of study understood their roles and that of others more than that those just in their first year. However, the results in STUDY 1 [8], indicating the positive perceptions of undergraduate students of healthcare programs towards IPE are also consistent with those of other studies, such as those by [11] Olenick, Allen, & Smego (2010) and [12] Lairamore & McCullough (2013).

The second table from Study 1 Table xx, showed that the Year 1 students had lower mean RIPLS scores as compared to Year 5 students in 3 of the four domains which were statistically significant. Implications are if students learn together from start of Year 1, throughout their training, they will become better prepared to deliver an integrated model of collaborative clinical care afterwards eg in Year 5 as well as upon entering practice. However, we need repeated exposure to collaboration throughout their training the, so called spiral curriculum.
From the findings of STUDY 2 [9] , the response to the RIPLS items of the questionnaire from the respondents had been analysed. Medical students gave a higher rating to the benefits of working together in order to solve patient problems compared to the other faculties. They were also more open to working small-group projects with other healthcare students and believed in the importance of shared learning to clarify the nature of patients' problems as compared to the other two faculties. On the other hand, the Nursing students believed that sharing learning will enable them to discover / understand their limitations. But surprisingly, they expressed that they were not sure what their professional role will be and that they wanted to acquire much more knowledge and skills as compared to the other respondents. Fischer Exact Test had been done.
Table xxx of Study 2, shows the differences in readiness for IPE among respondents respective of their faculties, expressed through the mean value of total RIPLS scores as well as scores of its subscale. The analysis found no statistically significant mean score differences among the faculties. This result indicated an equal level of readiness for IPE among different faculties and with total RIPLS scores ranging from 83.34 to 84.56; we can conclude that generally speaking, students were ready for IPE.

ii.Educational technology is the effective use of technological tools in learning. The need for IPE stems from many reasons. Going in tandem with changing times and Educational Technology few points need to be highlighted. According to The Lancet Commission, as reported by Frenk J,[13], the education obtained by graduates of various health professions are generally inadequate to meet the health challenges worldwide, in the twenty-first century. This is largely due to the static and outdated curricula, which is also said to be fragmented. Lennon-Dearing, [14], further added that their education centred on their respective disciplines alone. Additionally, these healthcare professionals, including nurses and physicians, need communication skills and a team-oriented mindset to provide patients with quality health care, whether in a pharmacy, hospital, or clinic. This is why many, are one, in saying that interprofessional (IP) teamwork is a must during undergraduate studies, as this will pave the way for a workforce that is practice-ready and collaborative, thereby improving the outcomes and services related to healthcare Buring, Hammick & WHO, [15,16,17] This is also, because IPE will promote the interaction of students from different disciplines and backgrounds at certain points throughout their education, allowing them to learn from, with, and about each other.

iii. Seven challenges had been identified and are listed as below.
To Create Optimal *Clinical Learning Environment (with 6 key characteristics).[18] IPE requires a shift away from

parallel working structures toward collaborative & synergistic engagement. Understand the differences of Inter Professional Practice (IPP) and Multidisciplinary Teams In IPP - There are Shared goals with Common learning process and Coordination of teaching efforts. There are also Shared decision making & accountability; All work in concert; and it is Patient centered. In Multidisciplinary Teams-there is Coexistence of several disciplines; Side by side but separately without interaction; No sharing between disciplines The creation of healthcare workforce to find joy and meaning in their work Health care of patient requires care of the provider, Bodenheimer and Sikka, [19&20] Shaping Interprofessional Education; Shaping collaborative practice readiness; Health and Education Systems

Thus, we need to find solutions to challenges in order to move health systems from fragmentation to a position of strength. Just like as if we are climbing up the ladder to reach the top or our goal.

IV.TRANSFORMATIVE IPE

It is good to know, through my literature search that there are few Universities that offer Transformative IPE. The Institute for Transformative Interprofessional Education is in Maywood, IL. Chicago. [22] It educates future health care providers and professionals to work as a team to better care for patients, to perform foundational research into interprofessional educational collaborative practice (IPEC/CP) and to transform health care to incorporate more interprofessional models.
Another one is The University of Arizona Health Sciences University of Arizona Center [23] for Transformative Interprofessional Health Care (CTIPH). To ensure that students build a skill set that will increase patient safety, reduce errors, maximize efficiencies and improve quality of Care.

V.CONCLUSIONS

The reason for my endorsement for IPE is also, to contribute towards the realization of the sustainable development goals [24 & 25]. There are 17 SDGs and they are the blue print to achieve a better and more sustainable future for all by 2030. Set in 2015, by the UN General Assembly especially the SDG 3 on health and wellness- To Ensure healthy lives and promote well-being for all, at all ages and SDG 4 on Quality Education. - To ensure Inclusive and equitable quality education and promote lifelong learning opportunities for all. Thus, Integrating the 2030 Agenda: SDG Roadmap Malaysia. Since I am a Pediatrician, what drives me to embark on these research studies is, because in this century where education is a prominent aspect of every facet of our lives, I want to make sure that every child gets a quality education. Lastly in line with the theme of the 9th International conference of Nursing & Public Health,2020, I offer my paper as a strategic advocacy in the Global Health Nursing modernization and challenges conference track.

VI. RECOMMENDATIONS

Eight recommendations have been made, based on the ELEMENTS CRITICAL FOR IMPLEMENTING IPE, Bridges. [21]

The first recommendation is to identify IPE as the Goal of the University

Secondly it is to identify administrative and faculty Champions at the University to lead and support IPE initiatives

Thirdly it is to establish relationship with other health care programs, considering geographical locations, university ownership /affiliations and existing relationship

Fourthly to identify administrative and faculty champions at each of the partnering Programs
Fifthly is to establish an IPE Planning Team with engagement from every player

- Choose IPE curricular themes
- Match students based on educational level and maturity
- Determine when and where this IPE will occur in the curricular schedule and who will teach/ facilitate the interprofessional curriculum
- Gradually implement based on level of preparedness (start small and go slow)
- IPE Planning Team members must advocate for the acceptance of IPE curriculum at their individual Universities/College.

Sixthly is to offer Faculty development programs to support faculty teaching in IPE
Seventhly is to establish faculty Rewards and Recognition for IPE involvement

Lastly is to determine an Assessment strategy to evaluate the IPE initiative and Share Results with internal and external stakeholders as well as the academic community via scholarship

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