

# Health Student Readiness Following Interprofessional Education Based on *Tri Kaya Parisudha*

**A.A. Istri Putra Kusumawati**

Sanglah General Hospital, Denpasar, Indonesia

Email: [a.kusumawati22@yahoo.com](mailto:a.kusumawati22@yahoo.com)

**I Wayan Eka Mahendra**

IKIP PGRI Bali, Denpasar, Indonesia

Corresponding author email: [eka\\_undiksha@yahoo.com](mailto:eka_undiksha@yahoo.com)

**Abstract---**This study aims to identify the readiness of health students to follow part in the IPE using a questionnaire modified with the Tri Kaya Parisudha concept. Patient safety incidents often occur from poor collaboration among health workers. That's why working collaboratively must be introduced to health students from early. Although the IPE program has been established as one of the courses, it has not yet had a significant effect on hospital services. This condition raises the question, what students feel mentally ready to join the IPE program? This is due to IPE requires good self-motivation in conducting safe and quality services. To elevate the motivation of health professionals, Tri Kaya Parisudha as local Hindu wisdom in Bali contains three elements of human attitude namely *manacika* (good think), *wacika* (good communication), and *kayika* (good behave) might be able to integrate into IPE. The result is the readiness of nursing students and medical students in the following IPE showed in the good category. The pharmacy, psychology, and physiotherapy students in the medium category. This study also revealed that *wacika* (in terms of speaking politely and respecting other professions to make the atmosphere of learning and working more comfortable) was the statement most agreed 82% of respondents. Overall health students are ready to follow the IPE and hopefully, will be ready to collaborative practice-ready human resources in promoting patient safety.

**Keywords---**Hindu wisdom, interprofessional education, patient safety, readiness, Tri Kaya Parisudha.

## Introduction

Patient safety incidents often occur due to poor collaboration among health workers. Working collaboratively must be introduced to health students from the start. Patient safety is a concerted effort in health care to ensure that treated patients do not experience incidents. All health workers must work according to the principles of patient safety. There are six patient safety goals: correctly identify patients before conducting medical interventions, improve effective communication among health workers, increase supervision of drugs that need to be watched for preventing infections related to health care and prevent injuries due to the fall of patients.

Patient safety will not be achieved if there is no collaboration among healthcare professionals. *Patient Centered Care* [PCC] is expected to produce very positive benefits for both patients and healthcare workers through IPE (Delaney, 2017). Reeves (2013), stated health services that implement IPE may have a good effect on service outcomes is the *first* part. *Second*, compliance with clinical guidelines or procedural standards will increase through the application of *interprofessional education* [IPE]. *Third*, changes in the clinical process (for example joint decisions regarding surgical incisions) can be related to the use of IPE). Finally, patients may be more satisfied with the care provided by professionals who have participated in IPE programs. However, based on the results of three years of reflection on the care services process to patients obtained the fact that professional care providers have not synergized collaboration in conducting care services. Therefore, it adversely affects the quality and safety of patients. This may be due to the absence of an appropriate

approach to creating optimal collaboration. Thus, the collaboration will be more optimal if it starts early or from education.

IPE is a learning program where all health students sit together to discuss problems that occur in patients. “Interprofessional practice occurs when students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes” (Hopkin (1989) in Williams *et al.*, 2020; Widana *et al.*, 2020). Thus, IPE allows two or more professions to learn with, from and about each other to improve collaborative practice and quality of care ( Barr & Low, 2017). Having discussion activities will encourage them to draw up a joint service care plan. The students will also communicate more effectively. They have the same understanding of patient care. Each member on the team will discuss how to try to improve the service quality and ensure patient safety at all times (Longhurst, 2020; Estevez *et al.*, 2018). IPE prequalification can form student’s mindsets that lead them to improve the care services quality in the real workplace later (Williams *et al.*, 2020; Nyandra *et al.*, 2018). The professionalism of health workers is challenged to prove whether their competencies are in line with existing standards. Good collaboration in health services requires equality incompetence. Based on IPE’s good objectives. A study is needed to identify the readiness of health students in participating in the IPE program. Optimal readiness arises from good motivation, and this requires the concept of positive thinking as well.

*Tri Kaya Parisudha* (TKP) as one of the Hindu concepts can be implemented universally, contains elements of thought (*manacika*), words (*wacika*), and behavior (*kayika*) purified to achieve the goal of goodness (Budi Adnyana & Citrawati, 2017). Hindu society believes that words and behavior begin with the thought. When students think of providing safe services, they will always discuss their ideas with other health professions and manifest them in real activities. Although the concept of TKP is often associated with efforts to build positive character and the learning process to achieve positive goals. So far the author’s search of journals both domestically and internationally using the keywords “interprofessional education”, “Tri Kaya Parisudha”, “healthcare service”, and “interprofessional collaboration”, currently no studies have been found on the concept of TKP which is integrated with interprofessional education. To achieve the maximum IPE objectives, integrated to the TKP concept into IPE becomes important. Readiness is the willingness of students to respond or react based on *manacika*, *wacika*, and *kayika*. Readiness also means a prerequisite for learning to the next stage. The health student’s readiness will give a sign of existing capacity related to specific teaching goals. IPE is not only conducted in the classroom but more effective through teaching in clinical fields. Many educational institutions apply IPE recommend that should be extended from classroom-based learning experiences to practice-based learning experiences (Reina, 2019; Amen *et al.*, 2019).

Several studies related to IPE show the failure implementation in several health education institutions. Olenick *et al.* (2019), reported the existence of negative factors made IPE not run optimally, namely scheduling and coordination factors. A survey-based study from Kozmenko *et al.* (2018), found “younger students are more open toward IPE that their elder classmates”. There are still differences in motivation between students participating in the IPE. Joynes (2018), also reported certain senior professionals to feel more comfortable working with fellow professionals than other health professions. Thus, it can be stated that the IPE program has not shown significant evidence of establishing a culture of collaboration. It can be expected to lead to patient safety. The above conditions raise the question, what students feel mentally prepared to join the IPE program? This is due to IPE requires good self-motivation in interacting to create safe and quality services. Meanwhile, TKP as Hindu local wisdom in Bali contains three elements of human attitude namely *manacika* (good thinking), *wacika* (good communication), and *kayika* (good behavior) which might be integrated into IPE hope increasing motivation health profession. This study aims to identify the readiness of health students to take IPE-based TKP.

## Method

This is a quantitative descriptive study. The quantitative descriptive approach was used because the purpose of this study was to describe the specific phenomena experienced by the population, namely the readiness of students to follow part in the IPE. The instrument used to collect data was a questionnaire from the *Readiness Interprofessional Learning Scale* (RIPLS) modified with TKP which contained aspects of *manacika*, *wacika*, and *kayika* to obtain data on student’s readiness to take part in IPE. The following is presented in Table 1. RIPLS questionnaire items before being modified with the TKP concept.

**Table 1.** The standard RIPLS questionnaire items

Item	Statement
S1	Learning with students/other health propositions will make the health team more effective.
S2	Patients will ultimately benefit if health students/professions work together.
S3	Learning with students/healthcare professionals will improve my ability to understand clinical problems and this is an important aspect of patient safety.
S4	Communication skills should be learned from students/other health professions.
S5	Teamwork skills are very important to learn for all students or health professions.
S6	Collaborative learning will help me to understand the limitations of my own profession.
S7	Joint learning among health students or health professions will enhance work relationships/support collaborative practice.
S8	Learning together will help me think positively about other health professions.
S9	To learn in small groups, students/professionals need to respect and trust.
S10	I don't want to waste time studying with other health and social care professional students.
S11	I don't need to study together with other students/health professions.
S12	Clinical problem solving can only be done effectively learning with students/professionals from my school.
S13	Sharing learning with other health and social care professionals will help me to communicate better with other professional patients.
S14	I would welcome the opportunity to work on small group projects with other students/healthcare professionals.
S15	Joint learning and practice will help me clarify the nature of the patient's or client's problems.
S16	Group study before and after qualification will help me become a better team worker.
S17	I'm not sure what my professional role is.
S18	I must acquire more knowledge and skills from students/other professions.

RIPLS is a standard questionnaire to measure readiness in the learning process becomes a competent questionnaire also in measuring the health student's readiness in following IPE based on the TKP concept. Furthermore, the standard RIPLS questionnaire in Table 1. was modified by adding some statements. Therefore, the RIPLS questionnaire is expected to strengthen the data to be obtained from respondents. The RIPLS questionnaire initially consisted of 18 statement items. It was then supplemented with 8 additional statements. The number of statements became 26 consisting of favorable and unfavorable statements, wherein *manacika* totaled 12 items, *wacika* totaled six items, and *kayika* totaled eight items.

**Table 2.** The modified RIPLS questionnaire items

Item	Statement	TKP Component
S1	Learning with students/other health propositions will make the health team more effective.	Manacika
S2	Patients will ultimately benefit if health students/professions work together.	Manacika
S3	Learning with students/healthcare professionals will improve my ability to understand clinical problems and this is an important aspect of patient safety.	Manacika
S4	Communication skills should be learned from students/other health professions.	Wacika
S5	Teamwork skills are very important to learn for all students or health professions.	Kayika
S6	Collaborative learning will help me to understand the limitations of my profession.	Manacika
S7	Joint learning among health students or health professions will enhance work relationships/support collaborative practice.	Manacika

S8	Learning together will help me think positively about other health professions.	Manacika
S9	To learn in small groups, students/professionals need to respect and trust.	Kayika
S10	I don't want to waste time studying with other health and social care professional students.	Manacika
S11	I don't need to study together with other students/health professions.	Manacika
S12	Clinical problem solving can only be done effectively learning with students/professionals from my school.	Manacika
S13	Sharing learning with other health and social care professionals will help me to communicate better with other professional patients.	Wacika
S14	I would welcome the opportunity to work on small group projects with other students/healthcare professionals.	Kayika
S15	When doing an assignment, I have to weigh it, especially when changing shifts	Wacika
S16	Joint learning and practice will help me clarify the nature of the patient's or client's problems.	Kayika
S17	Group study before and after qualification will help me become a better team worker.	Manacika
S18	I'm not sure what my professional role is.	Manacika
S19	I must acquire more knowledge and skills from students/other professions.	Manacika
S20	Speaking politely and respecting other professions makes the atmosphere of learning and work more comfortable.	Wacika
S21	Carry outpatient care as shared commitments.	Kayika
S22	I will report as soon as possible if there are critical diagnostic support results.	Wacika
S23	I will work according to patient safety procedures.	Kayika
S24	As part of a good health team, I will provide health education in my field.	Wacika
S25	Every follow-up activity that I do for patients must be documented in the patient's medical record.	Kayika
S26	As part of a good team, I will try to attend the meeting to discuss the conditions and patient care plans.	Kayika

The size scale in this questionnaire is the attitude scale (Likert scale) with five types of choices namely *Strongly Agree* (SS), *Agree* (S), *Doubtful* (RR), *Disagree* (TS), and *Strongly Disagree* (STS) with score range 1-5. On this scale, respondents expressed their agreement and disapproval of the 26 statements related to the readiness variable studied. In the favorable statement SS = 5 and in the unfavorable statement STS = 1. This modified RIPLS was carried out through two stages, firstly identifying 18 RIPLS statements into aspects of *manacika*, *wacika*, and *kayika*. This is conducted with a *Focus Group Discussion* with five people who are competent in the field of education and local culture. After 18 statements have been identified, eight more statements were added to further strengthen the data to be collected and to make the questionnaire more focused on the provisions of IPE in the field of health and TKP. After the questionnaire is ready, the construct validity test, empirical validity test, and calculation of the reliability coefficient. Validity test and calculating the reliability coefficient was carried out to find out whether the questionnaire was able to be a quality data collection instrument in explaining the specific phenomena experienced by the population, namely the health students readiness to follow IPE. To find out the validity of the content of the modified RIPLS instrument using the approach of Gregory (Mahendra *et al.*, 2019) substituted into the cross-tabulation (2x2) in the following Table 3.

**Table 3.** Cross tabulation 2 x 2

		Assessor 1	
		Less relevant (score 1-2)	Very relevant (score 3-4)
Assessor 2	Less relevant (score 1-2)	A	B
	Very relevant	C	D

	(score 3-4)		
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The formula for calculating content validity is:

$$VI/VK = \frac{D}{A+B+C+D}$$

Description:

VI/VK = content or construct validity

A = cell that shows disagreement between the two evaluators

B and C = cells that show differences in views between the first expert and the second assessor

D = cell showing valid agreement between the two assessors

After analyzing the modified RIPLS questionnaire which consisted of 26 statements had a content validity coefficient of 0.962. This value according to Gregory (Mahendra *et al.*, 2020) in the perfect category (excellent). Meanwhile, to determine the empirical validity of the modified RIPLS instrument using the formula of Pearson (Mahendra *et al.*, 2019; Arnawa *et al.*, 2019).

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{(N\sum X^2 - (\sum X)^2)(N\sum Y^2 - (\sum Y)^2)}}$$

A decision is valid whether or not the statement items are taken based on the *r-value* count, where if the *r-value* count exceeds the *r-table*, then the statement item is declared *valid*. Based on the results of the analysis, it is known that each item statement of this instrument has *r-value* count above *r-table*, concluded that all items declared *valid*. Meanwhile, the reliability coefficient of the RIPLS instrument is calculated using the Cronbach alpha formula:

$$r_{11} = \left[ \frac{n}{n-1} \right] \left[ 1 - \frac{\sum s_i^2}{s_t^2} \right]$$

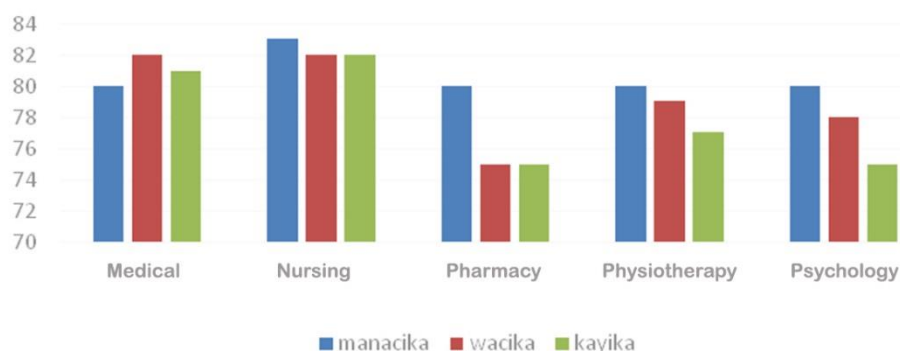
The reliability test results on 26 valid items indicate that the Alpha value = 0.806. Thus, it can be concluded that the RIPLS instrument modified with the TKP concept is declared *valid* and *reliable*. The questionnaire can be used as a quality data collection instrument due to it is able to explain the specific phenomenon that is the health student's readiness to follow part in IPE.

## Findings

There were 100 students of Udayana University and Surabaya University majoring in health involved in this study, they were nursing students, medical students, pharmacy, psychology, and physiotherapy with 20 students each who were in the semester before the IPE program was implemented. After filling out the questionnaire by respondents, a score was calculated based on aspects of *manacika*, *wacika*, and *kayika*. The readiness of each respondent's study program is calculated based on the percentage sum results from aspects of *manacika*, *wacika*, and *kayika*, then categorized with the following conditions: Good Readiness with 80%, medium readiness with 75% -79%, and poor readiness or not ready with ≤ 74%. Researchers also conducted interviews with respondents about which items from the questionnaire were the most memorable and were considered to influence the IPE program implementation and at the same time would affect collaboration between professions in the clinical work area.

Some literature explained the definition of TKP. According to Parmajaya (2018), TKP is one of the philosophies of Hindu society which is the basis of guidance to achieve quality human beings which is reflected in the ability to think, communicate, and behave well. According to Parisadha Hindu Darma (2014), TKP contained the notion of three purified behaviors consisting of *manacika* (good thoughts), *wacika* (good words), and *kayika* (good deeds). Hierarchically, it starts with good and right thoughts, so good and right words and deeds flow. Ardiawan & Padmadewi (2019), stated TKP are three actions that purified to achieve a high level of life. From some of these definitions, it can be concluded that the TKP is the purification that starts from controlling the mind so that it flows into good and true speech and is realized in the form of actions that benefit oneself, family, community, nation, and state.

Based on the analysis results obtained that the readiness of nursing students and medical students in participating in the IPE. It is in a good category. Although there are two people from the nursing study program and three people from the medical faculty expressed doubts in the *kayika* aspect, namely in the statement about S25 questions, namely: “every follow-up activity that I do for patients I must document in the patient’s medical record”. The following is presented in Figure 1. It is a graph of the readiness of health students to take IPE.



**Figure 1.** Health student readiness chart following IPE

The readiness of pharmacy, psychology and physiotherapy study programs shows a moderate category that is due to the fact. There are still some things that are “doubtful” in the *wacika* aspect. Wherein, there are 11 people from the pharmacy study program hesitating about the statement “as part of a good health team, I will provide health education in my field” and five people on the statement “share learning with other health and social care professionals will help me to communicate better with patients and other professionals”. Five people from the psychology study program were hesitant about the statement “when doing the assignment, I have to weigh it especially when changing shifts”, and four people from the physiotherapy study program expressed doubt in the statement “as part of the health team that is good, then I will provide health education according to my field”. So, if we summarize the readiness to follow IPE in the category of “medium” is related to the feeling of doubt in terms of 1) weighing (*kayika*), 2) writing in the medical record (*kayika*), 3) providing education to the patient and his/her family (*wacika*), 4) communication between health professionals (*wacika*). The results also showed that the majority of respondents (82%) agreed that *wacika* especially in the statement “speaking politely and respecting other professions makes the atmosphere of learning and working more comfortable” was the most memorable aspect by students on the grounds. It became an important basis when collaborate while working in the clinic area. Good and comfortable communication will create effective collaboration. This study also provides encouraging information in which all respondents are ready 100% in the aspect of *manacika* (mind).

## Discussion

There are four important points revealed from this quantitative descriptive study. The readiness of students to follow part in IPE is categorized as “medium” or not yet categorized as “good” due to doubts about weighing (*kayika*), writing in medical records (*kayika*), providing education to the patient and his/her family (*wacika*), and communication between health professionals (*wacika*). Handover is very important to be done between officers because the work is divided into several shifts. A handover is a technique or way to convey and receive something (report) related to the patient’s situation. Handover activity is one form of effective communication because it affects the continuity of therapy and care (Wong *et al.*, 2019; Sánchez & Martínez, 2020). Medical errors often occur due to weak communication between shifts. Handover is beneficial for the ongoing implementation of nursing care to patients. Therefore, handover is a must. If health workers do not do what they are supposed to do, of course, it is very contrary to the aspects of *kayika* or good deeds which will later have an impact on the quality of care and patient safety.

The medical record is a file that contains records and documents about the patient’s identity, examination, treatment, actions, and other services that have been provided to patients. In the Regulation of the Minister of Health No. 749a/Menkes/Per/XII/1989 concerning medical records, it was explained the medical record was a file containing records and documents about patient identity, examination, treatment, actions, and other services to patients at health care facilities, which are updated with Permenkes No. 269/Menkes/Per/III/2008, concerning medical records stated medical records were files containing records and documents about patients that contain identity, examination, treatment, other medical actions in health

care facilities for outpatient, inpatient care either managed by the government and private. Thus, all health care professionals must write their activities in the medical record on the form provided. All records will be written evidence if there are client complaints that lead to legal channels. Vice versa, if it is not writing then there is no evidence of good activities that have been carried out. No documentation means you do nothing!. This was proven in this study that there are still two people from the study program and three people from the medical faculty expressing doubts on the *kayika* aspect, namely in the statement about S25 “Every follow-up activity that I do on patients must be documented in the patient medical record”.

Busyness in caring for patient services with varying levels of service dependency tends to lead to a lack of time to write medical or nursing interventions into the patient’s medical record. Moreover, medical records are still conducted manually or paper-based medical records, which take a lot of time to be implemented. Nevertheless, documentation remains a demand that must be done. If the health worker does not document the medical record, it can result in threatening the patient’s safety and it is not following the *kayika* aspect (deed). Health services include promotive, preventive, curative, and rehabilitative efforts. Providing health education to patients is a promotive effort. This is the duty of all health professions under their scientific fields. Through IPE, patients will get quality and integrated health education which is a mirror of safe and quality service. If the health worker does not do the education that should be done. Then, it is very contrary to the *wacika* aspect.

Communication between health professions is an important basis for implementing interprofessional collaboration. Medical errors often occur in patients due to poor communication between professions (Lennen & Miller, 2016; Homeyer et al., 2018). Speaking politely and respecting other professions will make the atmosphere of learning and working more comfortable. The doctor and nurse relationship from the start was interactive and needed each other. Medical students realize the role of the nurse profession is very important in the service to patients, especially, for safety services (Samuriwo et al., 2018). Doctors and nurses play an important role in providing health services, and not surprisingly the nature of their relationship has a strong influence on the care quality for patient services. Good communication must also be established among other professions because professional care providers are not only doctors and nurses but there are also physiotherapists, pharmacists, and psychologists. Communication between good health professions must be realized immediately, no profession dominates, and no one feels superior to the others. If the health professional does not have a comfortable communication. Then, that is very contrary to the aspects of *wacika* or good words/communication. Poor staff communication triggers disharmony in providing services to patients.

Having seen the importance of IPE and its very high contribution in the patient safety program, WHO calls on all health education institutions to include IPE material in the curriculum (WHO 2010; Dominguez et al., 2015; Hon-Wai Wong 2016; Lennen & Miller 2016; Schapmire et al., 2018). Thus, it is expected health students will be better prepared to follow the IPE due to the subject is required in the curriculum. The results of this study also show that one of the three aspects of *wacika* (speaking politely and respecting other professions makes the atmosphere of learning and working more comfortable) is the most memorable aspect for students. Therefore, it is important to be a concern of all parties. It means students are increasingly aware of the importance of good communication between professionals to improve the care quality. This is supported by González-Pascual et al. (2017), positive student perceptions of interprofessional communication will increase their efficacy in providing quality health services. According to Deering, Johnston, & Colacchio (2011), failure in communication can contribute to patient sentinel incidents in hospitals so that teamwork training programs in an effective strategy are expected to improve outcomes. The application of *wacika* in TKP is very relevant in daily life including in terms of health services. Appreciating coworkers through polite communication has a positive effect on the work atmosphere. Thus, *wacika* (good and effective communication) among professionals forms high-quality collaboration to improve patient safety.

Work relationships are often disrupted due to poor communication. According to Foronda (2016), expression in the form of frustration is a result of work relationships that are not based on effective communication. Foronda (2016), gave an example of doctors feeling frustrated when in conditions where nurses provide patient information. It is not well organized, the contents of the report are not logical, and lack of preparation when answering and discussing. Likewise, nurses can also experience frustration if doctors do not show serious concern in treating patients and the low desire of doctors to discuss the goals of care services. Communication can be interactive, transactive, verbal, or nonverbal and vary in various forms and styles. A’La (2010), stated the effective inter-professional communication consists of clarity and accuracy of verifiable messages, collaboration in problem solving, calmness and supportiveness, maintaining mutual respect, and understanding of each unique role. Whereas, communication is ineffective if fellow health workers denigrate each other, depend on electronic systems, and cultural and language barriers.

Having seen to positive things are found, they can be the basis for providing recommendations, there are also constraints or weaknesses in this research, namely the use of questionnaires, especially, if the respondent is not sincere or dishonest according to the actual conditions when giving answers to the questionnaire.

## Conclusion

IPE is several health professions studying together to discuss safe and quality patient service care plans so there is no injury and incidents. IPE in the health sector will create human resources who are ready to collaborate between professions to improve patient quality and safety. This study indicates that although health students are 100% ready in the *manacika* aspect, there is still a level of readiness that is not in line with expectations, namely in the *wacika* and *kayika* aspects. The results of this study have implications for the importance of conducting workshops and technical training related to several materials including health professional communication, information management and medical records, communication management, and education, and weighing (hand over) so that participants are ready to participate in optimally IPE. To overcome the weaknesses of the research as explained above, it is necessary to use other data collection methods such as an observation checklist to accurately identify student's readiness to follow part in IPE.

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