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PRECONDITIONS OF SOCIETY SAFETY THROUGH ENHACEMENT OF MEDICAL RESPONSIBILITIES: A CASE STUDY

Sutarno

Department of Law, Faculty of Law, Universitas Hang Tuah
Jalan Arief Rachman Hakim No.150, Surabaya, 60111, Indonesia

E-mail: sutarno@hangtuah.ac.id

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Abstract. Hospital health services are essentially provided through the use of medication and care. However, medicines are the main cause of undesirable things in hospitals due to the fact that mistakes in prescriptions do not only affect patients but also the reputation of hospitals and health workers. This has, therefore, led to the focus on the problem of responsibility on the part of healthcare providers and the protection of patients. The purpose of this study was to provide information on medication errors, understanding the legal protection of patients after a negative effect and loss, as well as the role of pharmacy and health workers regarding drug prescriptions in hospitals. The results encompassed the forms of criminal, civil and administrative responsibility from pharmacists, nurses, and doctors except for delegate nurses. It further revealed that standard operating procedures are needed, either on drugs or more comprehensive doctor delegation actions, to reduce errors in prescriptions in hospitals. The focus should, therefore, be more on nursing and pharmacist laws. Additionally, provision of training to the various staff members in the hospitals is much necessary as it can increase their learning capabilities and dealing with the drugs in more responsible way. Such training facility to the human resource of the hospitals can further provide positive outcomes for various industries in public health with entrepreneurial potential. However, the moderating effect of gender between training facilities and industries in public health with entrepreneurial potential can also assumed a tentative contribution in the existing literature too.

Keywords: society safety; health services; medicine/drug, training facility, entrepreneurial potential

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1. Introduction

Safety of society is dependent on safe administration of medicine, which is one of the most important elements of health care delivery to patients. Therefore, healthcare officers such as pharmacists, nurses and doctors are required to understand the rules and procedures guiding prescription and administration of drugs due to the fact that most instances of errors are associated with these guidelines (Armitage & Knapman, 2003; Dean, Schachter, Vincent, & Barber, 2002). Adequate information about each drug needs to be well understood before it is administered to patients to prevent mistakes, ensure correct medication according to doctor's instructions, and ensure documentation and monitoring of the effects (Ferner & Aronson, 2006; Hartnell, MacKinnon, Sketris, & Fleming, 2012). This is important considering the serious negative effects of the wrong prescription and administration of medicines.

Medication Error is defined as the harm caused to the patient due to preventable improper handling of prescription and administration of drugs by health workers to the patients (Anacleto, Perini, Rosa, & César, 2005; Van Mil et al., 2016; Williams, 2007). It is one of the most common medical errors with a high rate of morbidity

leading to death in hospitals. Based on Dwiprahasto (2006), 11% of medication errors in hospitals are related to administration of drugs to patients in the wrong dosage or medication form while National Patient Safety Map report (PERSI Congress 2007) ranked this error the first with 24.8% of the top ten reported incidents. For example, a case of medication error by nurses was observed at Hospital X on February 14, 2012, where a patient aged 3 years was diagnosed in the Jasmine room with a seizure fever. In accordance with the doctor's instructions, the patient's infusion needed to be replaced with a phenytoin drug drip, but the nurse immediately changed the infusion without following the instruction. A few minutes later, the patient had a seizure, fortunately, the patient's family reported this incident before it could get worse and the normal thing was performed. This shows the negligence of care has the ability to endanger patient safety.

During the shift of official hours, all nurses have the responsibility to participate in operands aimed at understanding a patient's condition and the course of actions to follow to avoid an error. However, nurses are responsible for the administration of a safe drug, and it has been discovered that they do not usually administer according to doctor's orders. It is expected that nurses understand every component of drug administration order and ask questions in situations it seems incomplete or unclear, or when the dosage prescribed is outside the proper limit. It is important to note that there several unidentified and unreported cases of wrong prescription and administration of drugs in hospitals and other healthcare facilities. This makes it important to find a lasting solution to such occurrences due to the negative effects it has on patients, health workers, and the hospital as a whole as well as the assumption that errors in drug administration are common. Therefore, this study was conducted to examine the effect of the responsibility of health workers in medication errors on the patients in hospitals.

Public Health Entrepreneurship (PHE) and Training**.** The concept of public health entrepreneurship (PHE) has provided a good opportunity for the public health to recognize itself as a growing field (Becker, Chahine, & Shegog, 2019; Jacobson, Wasserman, Wu, & Lauer, 2015; Okuneye, Idowu, & Dansu, 2006; Panfiluk & Szymańska, 2017). In order to meet the contemporary market demands, it is obvious for different community members to understand, learn and differentiate between the various type of skills which can be marketed to proposed employers (Bennett, 2002). PHE is defined under the shadow of social entrepreneurship which has attained significant attention in the recent decades (Green, 2012). Social entrepreneurs play their role in the society as change agent through set of the activities (Abu-Saifan, 2012; Bacq & Janssen, 2011; Santos, 2012). Their roles are under the title of adopting a social mission to create values (Sullivan Mort, Weerawardena, & Carnegie, 2003), recognition of new opportunities (Lehner & Kansikas, 2012; Yitshaki & Kropp, 2016), engaging themselves in the process of continuous innovation (Carraher, 2013), acting in a bold way, and finally the exhibition of heightened sense of accountability (Hernández, Carrión, Perotte, & Fullilove, 2014). As a nascent field, social entrepreneurship has covered variety of fields including education, development of the workforce, micro-financing, and health sector too (Fortunato, 2014; Short, Moss, & Lumpkin, 2009; Zahra & Wright, 2016). Health is primarily observed as inherent factor in the society, but PHE captures those enterprises which are rooted in the health protection, disease prevention and other health care facilities (Evans, Barer, & Marmor, 1994). In the literature of PHE, various fields and entrepreneurial ventures are emerged to promote the public health enterprise. Some of the emerging industries which are related to PHE potentials are depicted in the figure 1 below.

Figure. Industries relevant to PHE with potential

Source: Hernández et al. (2014)

In developed economies like United States, PHE is significantly helping to provide the answer for the various challenges of health (Ross, 2017). It is believed that entrepreneurship is a powerful source which can direct to work for the better community health. However, government public health budget are constrained by the variety of economic factors (Ross, 2017). In addition, training facility for the public health entrepreneurial can serve as an incubator for the public health innovation (Ostrovsky & Barnett, 2014; Séguin, Hardy, Singer, & Daar, 2008; Tonukari, 2008). For this purpose, series of course areas have been highlighted in the literature covering the cross-disciplinary curriculum for training in PHE. These are under the title of legal and regulatory structure which gain awareness for both individual and community benefit of the PHE and ethical consideration for the earning from disease vs. health (Becker et al., 2019).

In addition, the training need for the employees either working in the service industry or any other sector is widely accepted and discussed in the literature. However, focus on the medical field by the researcher for the proper training of the human resource is discussed in a context of pediatric disaster victims (Behar, Upperman, Ramirez, Dorey, & Nager, 2008), advance trauma life support training for medical staff (Jayaraman, Sethi, Chinnock, & Wong, 2014), training for the spiritual care of the patients (van de Geer et al., 2018), prevention from the suicide and related training programs (Nakagami et al., 2018), emergency news delivery training by the medical staff (Dekker-Boersema et al., 2019), and provision of advance cardiac life support training programs (Chang, Chang, Hwang, & Kuo, 2018). Meanwhile, public health conceptual framework discusses the points to situate the factor of health into broader structure. Based on the above discussion, this study has two main intentions. The study first intention is to theoretically conduct a discussion over medical obligations of various health staff regarding prescriptions of drugs and related laws. In the second step, this study has intended to investigate the influence of training needs on PHE potential industries. The rest of the paper is organized as follows: methods, theoretical discussion, empirical findings, and conclusion. The methods cover the overall perspective of the study, sample being observed and techniques of data analysis, while discussion is covered mainly under two subtitles. Lastly conclusion of the study is provided.

2. Methods

This study has contributed in the existing literature in two perspective. At first some significant theoretical discussion is conducted regarding the standards for the pharmaceutical services in administrating the medicines, responsibility for nursing errors in hospitals along with doctor's liability. In the second phase, a survey questionnaire wad developed in order to provide further insight into the field of public health, related industries and the influence of training facility on them. The questionnaire was proposed based on the 12 items of training facilities for the medical staff in the hospitals and four industries having entrepreneurial potentials like education

and social service, environmental service, fitness and recreation, and holistic health etc. The questionnaire was distributed to various staff members in the hospitals as they are deemed a relevant sample due to nature of the problem and research objective of the study. Medical staff was requested to fill the questionnaire during their working period and data was collected for the empirical analysis through SPSS 22, considering a likert scale from 1 to 5. A final sample of 112 respondents was collected from the medical staff (details are provided in the subsequent section). Although the collected sample is found to be very limited yet literature support is reasonably available for the limited sample size as observed in the research findings of (Chen, Yao, & Kotha, 2009; Krueger Jr, Reilly, & Carsrud, 2000; Ozdemir, Dabic, & Daim, 2019). Besides, respondent profile is examined through age, gender, working experience, and employment criteria too.

3. Theoretical discussion

The hospital is a health care institution that provides proper individual health care delivery through inpatient, outpatient, and emergency services (Permana, 2016). Implementation of health efforts needs to be conducted by responsible health workers with high ethics and morals, expertise, and an authority that requires improvement through continuous education and training, certification, registration, licensing, as well as guidance, supervision, and monitoring (Bastable, 2017; Brauer, 2016). This is needed to fulfill a sense of justice and humanity in accordance with the development of health science and technology (Permana, 2016). However, implementing health care services in the hospital is very complex considering the differences among the workers and the interaction of knowledge (Siswati, 2013). During the process of providing health services, there is a need to prioritize medical and non-discriminatory indications in the best interests of the patient and accordance with medical indications (Askitopoulou, Singler, Frühwald, & Weissenberger-Leduc, 2018; Priestman et al., 2019). Moreover, health personnel need to meet the provisions of the code of ethics regulated by producer organizations, professional standards, the rights of users of health services, service standards, and standard operating procedures. Grammatically and juridically, there is a difference regarding the understanding of health workers according to the *Kamus Besar Bahasa Indonesia.* From the grammatical perspective, the term "workers" means people that work or do something while "health" relates these workers to the medical field. Therefore, health workers are grammatically workers or human resources in the medical field. From the legal perspective, Law Number 44 the Year 2009 concerning Hospitals defines health workers as part of the permanent human resources of hospitals and they include medical staff, consisting of medical doctors and certain medical personnel, medical support, nursing staff, pharmaceutical Workers, hospital management personnel, and non-health workers . However, this research focused on the roles of doctors, nurses, and pharmacists concerning the errors in administering medication in hospitals as main respondents.

The pharmaceutical service standards to assess a pharmacist's negligence in providing drugs include that pharmacists must understand and be aware of medication errors in the service process (Horn, 2019; Rocha et al., 2019). Additionally, pharmacists need to identify, prevent and overcome drug-related economic, social, and pharmacy problems; and pharmacists are required to improve knowledge, skills, and behavior in conducting direct interactions such as the provision of drug information and counseling to patients in need. With specific attention to the provision of drugs, pharmaceutical service standards also known as clinical pharmacy services, are direct services provided by pharmacists to patients in rayat to improve therapeutic outcomes and minimize the risk of drug side effects and ascertain the patient's quality of life is guaranteed (Drovandi et al., 2018; Forsyth et al., 2019; Penna, 1990). These services include:

1) Assessment and prescription

Prescription services start from receipt, checking availability, prescription review, preparation of pharmaceuticals, medical devices, and consumable medical materials including drug compounding, checking, and provision of information. Every stage of prescription service is required to prevent medication errors.

2) History of drug use

It is a process of obtaining information about all other pharmaceuticals/drugs that have been and are being used from interviews or medical record data of drug use from patients.

3) Drug Information Services (PIO).
These are activities directed towards providing independent, accurate, current, and comprehensive information and recommendations by pharmacists to doctors, nurses, other health professionals, as well as patients and other parties outside the hospital.

4) Counseling
This is an activity involving the provision of advice or suggestions related to drug therapy by a pharmacist or counselor to patients or their families. Counseling for outpatients and inpatients is conducted based on a pharmacist's or doctor's referral or the patient's or family's wishes.

5) Monitoring drug therapy (PTO)
Drug therapy monitoring (PTO) includes activities to ensure safe, effective, and rational therapy for patients.

6) Monitoring of Drug Side Effects (MESO) is the activity of monitoring any response to unwanted drugs occurring at normal doses used in humans for prophylactic, diagnostic and therapeutic purposes.

The word "responsibility" means a condition where an individual or organization as accepted to be blamed, sued, and responsible for certain actions. It was further defined as a state of competence or ability to think effectively according to the law as well as the ability of a person or legal entity to bear the obligation or the burden thereof to everything or every deed. Fockema Andreae *a*s quoted by Arifin P. Soeria defined responsibility as the obligation to assume responsibility and loss if prosecuted related to law and administration (Atmadja, 1983). In English, the term is defined in two ways, responsibility and liability. Responsibility is defined as being responsible for the action towards oneself while liability is interpreted as being responsible for actions towards others and translated as legal accountability in Indonesian language. According to Black's Law Dictionary, *liability* has three meaning and they include:

a. Related obligation in law or justice to do something;
b. The condition of being liable for loss or actual damage;
c. Conditions to conduct duties to take immediate or future actions.

Liability is further explained as a situation where the error or negligence of an individual causes harm to others with the affected person having the right to claim compensation and the individual that caused taking responsibility for the consequence (Sudikno, 2005).

Moreover, liability can also be referred to as a legal obligation to bear the consequences of mistakes made by legal subjects while responsibility refers to political and moral liability. The legal liability has three parts and they include criminal law, administrative law, and civil law, which is often referred to as responsibility. Basically, civil law liability aims to ensure patients receive compensation, in addition to being preventive to avoid undesirable things.

Responsibility for Nursing Error in Hospitals. The provision of drugs or medication is an important element in efforts to cure disease and restore health. Nurses are responsible for ensuring the administration of the drug is safe for patients and also required to be equipped with nursing knowledge (Law No. 23 of 1992 article 32 paragraph (3). In administering safe drugs, attention is required to be paid on five rights which include the right patient, right drug, right dose, right time and right route and each of these requires special nursing knowledge, skills, and actions (NOGA, 1992). Moreover, (Damico et al., 2018; Gaikwad et al., 2018; Schwartz, Lima, Clark, & Miller, 2019) also revealed the rights that are also important in professional nursing practice to include the right assessment, right documentation, client's right to get an education, right evaluation, and client's right to refuse medication. The authors further highlighted various accuracies required by nurses together with proper documentation to achieve legal accountability. These are especially needed by inpatients treated in the hospital room and where the nurse is required to administer a variety of drugs to several different patients. Therefore, to avoid errors in drug administration, nurses need to apply the principle of "six right".

Nursing care aims to improve the health conditions of patients (Strandås & Bondas, 2018). However, there are situations the opposite is observed where the patient's condition worsens due to the activities of the nurses lead-

ing to disability, or, to the extreme, death. The provision of health care in the hospital is directly related to the patient and in certain cases other health professionals. This direct relationship means there is continuous direct interaction between the nurse and the patients and their families. From a legal perspective, there are two aspects of the nurse's relationship with the patient. The first is the material and real aspect which involves nurses agreeing with patients on the nursing action plan to be conducted while the second is formal with the nurse operating as a hospital employee and the patient is entitled to receive nursing care (Strandås & Bondas, 2018).

According to Law No. 38 of 2014 concerning Nursing, nurses are given the authority to make health efforts in accordance with their expertise. They are expected to prioritize the interests of patients by providing services in accordance with professional standards, operational procedures standards, nursing care standards, regulations in the workplace, and the nursing code of ethics. Moreover, they need to be responsible for themselves, their profession, and society both through the nursing actions undertaken (responsibility) and accountability (liability). Responsibility means the willingness to accept the risk of unlawful acts and incur a criminal loss while liability means the willingness to compensate for damages arising from acts that violate civil law.

The responsibility for the occurrence of nursing errors needs to be linked to the nurse's action category. According to Sofwan Dahlan, the actions of nurses working in hospitals are divided into caring, technical, and delegated medical activities (Dahlan, 2000). Caring activities encompass the legal responsibility of nurses including decisions made and the execution of those decisions. Technical activities involve the implementation of a doctor's decision, based on verbal orders, fixed procedures (SOPs), and existing Standard Operating Procedures (SOPs) while delegated medical activities are part of the medical authority delegated to nurses. In this case, the nurse is not legally responsible, both regarding the decision and the implementation as stated in Article 32 paragraph (1) - (6) of Law No. 38 of 2014 concerning Nursing and revealed as follows:

(1) Execution of tasks based on delegation of authority with reference to Article 29 paragraph (1) letter e can only be given in writing by medical personnel to nurses to conduct medical actions and evaluate their implementation.

(2) Delegation of authority as referred to in paragraph (1) can be delegated or mandated.

(3) Delegative delegation of authority to take medical action is given to nurses by medical personnel.

(4) Delegative delegation of authority according to paragraph (3) can only be given to professional nurses or competent vocational nurses.

(5) Mandated delegation of authority is given by medical personnel to nurses to conduct medical actions under supervision.

(6) The responsibility for medical actions on the delegation of authority according to paragraph (5) is based on the authority grantor.

Doctor's Liability. In law, there are three elements of a doctor's liability in treating patients and they include: negligence to blame or culpability, losses or damages, and causal relationship. A doctor makes a mistake or considered negligent if the action conducted is careless, ignorant of the interests of others, and not in accordance with professional standards. This I, however, measured through the fulfillment of the previously mentioned three elements and the inability to fulfill one of them excuse the doctor from the blame and can be legally acquitted of all charges. It is also important to state that not every loss due to medical treatment is the doctor's responsibility, some are attributed to the hospital as well as the patients.

The responsibilities of medical professional are categorized into ethical and legal. As previously stated, the legal responsibilities can further be divided into administrative, civil, and criminal laws. Civil liability usually arises due to the legal relationship between doctor and patient, through the therapeutic agreement[1]. Basically, it is in the form of engagement, and the contract defaults if there is non-adherence to the content of the agreement and the doctors can be prosecuted for acts against the law due to violations of statutory provisions and sense of propriety, accuracy, and caution based on the legal obligations. Moreover, the most important thing to determine whether a doctor's action is against the law or default is the optimal effort in conducting health services or medical treatment for patients. According to Article 1320, the third requirement cannot be fulfilled due to the

fact that the object of engagement between the patient's doctor is in the effort of the doctor to heal the patient carefully despite the tension (nspanningverbintenis), therefore, this article cannot be applied in an agreement between a doctor and the patient.

Article 24 paragraph (1) of Law Number 36 Year 2009 concerning Health shows the determination of the effective conduct of doctor's duties by stating that "health workers in conducting their duties must fulfill the provisions of the code of ethics, professional standards, rights health service users, service standards, and standard operating procedures". Meanwhile, Article 44 paragraph (1) of Law number 29 of 2004 concerning Medical practice also states that doctors, in conducting medical practices, are required to follow medical service standards.

The legal responsibilities of doctors in criminal law arise when there are certain medical errors. The parameters to assess the alleged violation of criminal law according to Indriyanto Seno Adjio cited Oemar Seno Adji's opinion include

1) The existence of zorgvuldigheid (accuracy) shows a doctor has the normal ability with a reasonable relationship to treat patients.

2) The existence of diagnosis and therapy shows these actions are conducted by the doctors depending on their knowledge, abilities, and experience. In a situation the diagnosis is influenced by the position, development, and state of medical science, the therapy is also affected by several factors such as psychological, psychological, and compilation conditions without prior calculation.

3) Professional standards, in the form of a) average ability, b) category and condition, c) fulfillment of the principle of proportionality and subsidiarity to conduct medical measures.

Therefore, if there is a failure or death of a patient due to medical services performed by a doctor, it can first be proven that there is a causal relationship or cause and effect between the doctor's medical actions and the patient's injury or death. It is, however, usually important to distinguish between cause in fact and proximate cause. The first problem is, the doctor's actions cause harm, death/injury, to the patient while the second problem is that the limits of the doctors' responsibility are related to the consequences of their actions. From the explanation of the criminal acts and liability, cases of errors which result in fatalities from doctors may be subjected to criminal prosecution based on several applicable laws and regulations either the general ones (lex generalis) like the Criminal Code or those contained in special laws (lex specialists) as in Law Number 36 Year 2009 concerning Health Principles and Law Number 29 Year 2004 on Medical Practice.

4. Research Findings and Discussion

This section covers the empirical findings and relevant discussion for the relationship between training facilities and its impact on Respondent's details are provided under Table 1 and Table 2 through cross tabulation for the experience, age and gender factors. It shows that overall 78 male and 34 female members are covering the sample portion of this research, where 8 male members are in age range of 20-25, and 26-30 years with all type of working experience, 20 in age range of 31-35 years, 22 in range of 36-40 years, and 20 are above 40 years of age with maximum 11 members having working experience of 6-8 years respectively. In terms of female respondents, cross tabulation expresses that only 4 females are in age range of 20-25 years, 3 are in range of 26-30 years, 10 are in range of 31-35 years, 13 females are in age range of 36-40 years and only 4 female respondents are above 40 years of age. In terms of working experience, maximum 13 females have a working experience of 5-6 years in their relative field, followed by 10 females with the experience of 6-8 years respectively. Figure 2 below provides a good view for both the gender profiles as expressed through age and working experience.

Table 1. Respondent Profile Through Cross Tabulation of Experience, Age, and Gender

Gender			Experience					Total
			1-2 years	3-4 years	5-6 years	6-8 years	9 years and above	
Male	Age	20-25 Years	2	1	1	1	3	8
		26-30 Years	0	5	1	2	0	8
		31-35 Years	0	2	11	5	2	20
		36-40 Years	1	0	8	11	2	22
		above 40 Years	3	2	4	1	10	20
		Total	6	10	25	20	17	78
Female	Age	20-25 Years	1	1	1	1	0	4
		26-30 Years	0	2	0	1	0	3
		31-35 Years	0	1	6	1	2	10
		36-40 Years	0	0	4	6	3	13
		above 40 Years	0	0	2	1	1	4
		Total	1	4	13	10	6	34
Total	Age	20-25 Years	3	2	2	2	3	12
		26-30 Years	0	7	1	3	0	11
		31-35 Years	0	3	17	6	4	30
		36-40 Years	1	0	12	17	5	35
		above 40 Years	3	2	6	2	11	24
		Total	7	14	38	30	23	112

Figure 2. Demographic Details in Terms of Age, Working Experience and Gender

Table 2 considers the demographic details as expressed through employment criteria (full time, part time) with the age and working experience in years. It is found that respondents with full time working profile are 53 with the experience of all type of categories. In terms of part time, 59 respondents are observed, out of which 22 members having work experience of 5-6 years, 11 with 6-8 years, and 13 have a working experience of 9 years and above. Figure 2 describes the cross tabulation for experience, age and employment criteria.

Table 2. Respondent Profile Through Cross Tabulation of Experience, Age, and Employment Criteria

Employment			Experience					Total
			1-2 years	3-4 years	5-6 years	6-8 years	9 years and above	
Full Time	Age	20-25 Years	3	1	0	1	1	6
		26-30 Years	0	3	1	2	0	6
		31-35 Years	0	0	8	3	2	13
		36-40 Years	0	0	3	12	4	19
		above 40 Years	0	1	4	1	3	9
		Total	3	5	16	19	10	53
Part Time	Age	20-25 Years	0	1	2	1	2	6
		26-30 Years	0	4	0	1	0	5
		31-35 Years	0	3	9	3	2	17
		36-40 Years	1	0	9	5	1	16
		above 40 Years	3	1	2	1	8	15
		Total	4	9	22	11	13	59
Total	Age	20-25 Years	3	2	2	2	3	12
		26-30 Years	0	7	1	3	0	11
		31-35 Years	0	3	17	6	4	30
		36-40 Years	1	0	12	17	5	35
		above 40 Years	3	2	6	2	11	24
		Total	7	14	38	30	23	112

Figure 3. Demographic Details in Terms of Age, Working Experience and Employment Criteria

After the demographic analysis, it was deemed necessary to further investigate the effect of EHP training items on various industries as related to public health and entrepreneurship potentials too. For this purpose, overall four industries under the title of education and social services (ESS), environmental services (Eserv), fitness and recreation (FitRec), and holistic health (HolHealth) accordingly. All these fields are extracted from the literature contribution of (Hernández et al., 2014), who focused on public health entrepreneurs. For EHP training, overall 12 items were extracted from the literature and adapted for the present study. It is observed that focusing training course in achieving individual objectives can positively and significantly influence on ESS, FitRec and HolHealth, significant at 5 percent. Whereas the 2nd item of EHP training is found to be insignificant for all four categories of industries related to public health having entrepreneurial potential, except for FitRec. This would imply that for more the understanding of the training course through participation, positive the influence on fitness and recreation sector of public health will be. Furthermore, provision of educational and learning environment to the respondents in health sector can increase the participation in ESS and FitRec accordingly. In addition, with the more potential pathway for implementing the health care services as observed through PHE training facilities, there is a significant and positive impact on ESS, and FitRec (i.e. coefficients are .150, and .103, significant at 5 percent). Meanwhile, TNF9 indicates a positive and highly significant impact on educational and social services. While the effect of PHE training programs in removing the errors for administering the drugs is positively significant for all four categories of Industries relevant to public health with entrepreneurial potential.

Table 3. EHP Training and Its Influence on selected industries relevant to public health with entrepreneurial potential

EHP Training Items	DV: ESS		DV: Eserv		DV: FitRec		DV: HolHealth	
	Beta	Sig.	Beta	Sig	Beta	Sig	Beta	Sig
(Constant)	0.152	.905	.629	.352	0.367	.426	.968	.093
TNF1: Training Course can help me to achieve my individual objectives	.120***	0.000	.143	.255	.210**	.001	.257**	.032
TNF2: I can acquire a deeper understanding of the Training Course subject by participating therein	-.188	.035	.067	.560	.144***	0.000	-.091	.406
TNF3: My performance level will rise as a result of my attendance to the training course as professional health entrepreneur	.124	.158	-.027	.808	-.147	.108	.030	.778
TNF4: Training course can Create an appropriate educational and learning environment for me	.028***	0.002	.113	.230	.019***	.003	.110	.242
TNF5: Training program can increase my learning for the self-administration of the medicines	.018	.832	.005	.964	.084	.349	.001	.994
TNF6: Training program can provide Adequate information about each drug needs to be well understood	-.002	.983	.180	.067	.036	.666	-.052	.595
TNF7: Public health entrepreneurship (PHE) training provides a potential pathway for implementing health care services.	.150***	0.000	.098	.120	.103**	.018	.070	.571
TNF8: PHE training requires a unique skillset to advance public health.	.214	.011	.036	.706	.059	.492	-.102	.320
TNF9: PHE training presents an opportunity for inter-professional collaboration.	.275***	.005	.016	.916	.123	.225	.147	.222
TNF10: For proper learning of permanent human resources of hospitals, PHE training is compulsory.	.045	.646	.150***	.006	.037	.713	.018***	.000
TNF11: PHE training can help in lowering the Nursing Error in Hospitals	.098	.314	.040	.767	.319	.002	.252	.039
TNF12: Errors in administering drugs can also be eliminated through PHE training programs	.492***	.000	.430***	.004	.382***	.000	.273**	.021

After the direct influence of EHP training items on selected industries of public health with entrepreneurial potential, Table 4 exemplifies the interaction effect of gender between TNF and selected industries. It shows that interaction of gender with TNF2 is positively and significantly impacting on ESS, Eserv, FitRec, and HolHealth of the patients. This effect would further express that gender presence as a moderator between acquiring a deeper understanding of the Training Course subject by participating therein or TNF2 and all four industries, positive influence is observed. Additionally, the interaction effect of TNF8 with gender is found to be positively

significant for ESS, FitRec, and HolHealth with their relative coefficients of .389, .022, and .263 respectively. Lastly, the moderating effect of gender between TNF11-ESS, TNF11-FitRec, TNF11-HolHealth, and between TNF12-ESS is highly significant and positive, implying that more the gender influence on the training programs, productive the relationship between these training items and some industries with entrepreneurial potential in public health.

Table 4. Moderating effect of Gender on EHP Training and Selected Industries Relevant to Public Health with Entrepreneurial Potential

EHP Training items and Gender Interaction	*DV: ESS*		*DV: Eserv*		*DV: FitRec*		*DV: HolHealth*	
	Beta	Sig.	Beta	Sig.	Beta	Sig.	Beta	Sig.
(Constant)	0.697	.000	3.300	.000	3.296	.000	3.326	.000
TNF1*Gender	-.077	.603	.029	.863	.037	.799	.032	.840
TNF2*Gender	.283**	.043	.114*	.065	.136**	.029	.093***	.001
TNF3*Gender	.106	.467	.086	.601	.278	.159	.019	.901
TNF4*Gender	.047	.713	.204	.156	.046	.720	.153	.261
TNF5*Gender	.063	.661	.088	.584	.007	.958	.039	.798
TNF6*Gender	.115	.362	.170	.230	.034	.787	.142	.291
TNF7*Gender	.255*	.089	.054	.745	.052	.725	.224	.162
TNF8*Gender	.389***	.008	.023	.886	.022**	.028	.263**	.020
TNF9*Gender	.221	.283	.159	.492	.075	.714	.155	.481
TNF10*Gender	.023	.916	.064	.796	.090	.683	.161	.493
TNF11*Gender	.589**	.032	.109	.622	.586***	.003	.456**	.032
TNF12*Gender	.471***	.009	.236	.238	.203	.252	.089	.637

Note. TNF*Gender shows interaction Term,

4. Conclusion

Errors in administering drugs by health workers are contained in three legal aspects including civil, criminal, and administrative laws. However, fatal errors may lead to criminal prosecution based on several applicable laws and regulations either the general ones (lex generalis) or special laws (lex specialists) as in Law Number 36 the Year 2009 and Law Number 29 the Year 2004. Meanwhile, the nurse's responsibility is associated with nurses' actions in the hospital as well as delegation according to Article 32 paragraph (1) - (6) of the Nursing Act. This study has theoretically discussed the context of medical responsibilities of the prescription of the drugs and its effect on the patents. For this purpose, significant discussion is made regarding who are the health workers, what are their prime obligations, and who are the key parties under the title of medical workers. Additionally, various standards for the pharmaceutical services in administering the medicine with the legal liability of the staff and responsibility for the nursing errors in the hospitals along with doctor's liability are reasonably discussed under present research. In the second part of the research, empirical findings are presented covering the title of training factors and their influence on the Industries relevant to public health with entrepreneurial potential. For the respondent's profile, demographic factors are also discussed through cross tabulation method, covering the title of age, gender, working experience, and employment profile too. Additionally, regression findings show that there is a significant and positive influence of selected items of training facilities on various industries of public health having entrepreneurial potentials. Furthermore, moderating effect of gender between training and public health industries with entrepreneurial potentials is also tested and presented. Findings explains that gender factor is significantly moderating the relationship of TNF2, TNF8, TNF11, and TNF12 with selected industries. Based on the study theoretical discussion and empirical contribution, this research has untapped the discipline of entrepreneurship in the field of medical sciences under the shadow of training needs and their relationship with public health industries too. As literature context is widely providing the support for the entrepreneurial context for the business students, however, significant gap is yet to be covered in other fields like medical law and public health sectors as well. In this way, this research is a novel contribution both

theoretically and practically to explore the relationship of training facilities and relevant industries of public health having entrepreneurial potentials. The results of this research have provided a good evidence for the significance of training need for the medical workers, working in hospitals which may increase their learning and understanding of the drugs too.

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SUTARNO
ORCID: orcid.org/0000-0002-963-4973