

## The Relationship between Nurse's Characteristics and Motivation with the Implementation of International Patient Safety Goal

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### Abstract

Patient safety is a mandatory requirement that must be implemented in all hospitals and is one of the efforts in implementing International Patient Safety Goals (IPSG). The study aims to determine the relationship between nurses' characteristics and motivation with the implementation of IPSG in Inpatient Rooms at Aceh Government Hospital. This study was a quantitative study with cross-sectional study design. The total samples were 122 nurses which were selected through a simple random sampling method. Data was collected using a questionnaire consisted of respondent's characteristics, the implementation of IPSG, and motivation aspect using The Unified Motivation Scales (UMS). Data were analyzed using descriptive statistical tests and nonparametric inferential statistical tests; chi-square and logistic regression test. This study found that there was no relationship between age, gender, marital status with the implementation of IPSG. Education, employment status, length of work, and motivation have relations with IPSG. Education with odds ratio = 33.469 and the need for achievement with odds ratio = 9.669 were the sub-variables that were significantly related to the implementation of IPSG in Inpatient Rooms at Aceh Government Hospital. Base on the result, it can be concluded that the nurses' characteristics of education and the need for achievement were the most significant predictors related to the implementation of IPSG in the Inpatient Rooms at Aceh Government Hospital. Implementing IPSG in the Aceh Hospital Inpatient Room can be continuously improved by always motivating nurses, providing rewards, and encouraging an attitude of need for achievement, affiliation and need for power.

**Keywords:** Implementation, IPSG, motivation, nurse.

### Abstrak

Keselamatan pasien merupakan syarat wajib yang harus diterapkan di semua rumah sakit dan merupakan salah satu upaya dalam mengimplementasikan International Patient Safety Goals (IPSG). Penelitian ini bertujuan untuk mengetahui hubungan antara karakteristik dan motivasi perawat dengan penerapan IPSG di Ruang Rawat Inap Rumah Sakit Pemerintah Aceh. Penelitian ini merupakan penelitian kuantitatif dengan desain penelitian cross sectional. Jumlah sampel sebanyak 122 perawat yang dipilih melalui metode simple random sampling. Pengumpulan data dilakukan dengan menggunakan kuesioner yang terdiri dari karakteristik responden, pelaksanaan IPSG, dan aspek motivasi menggunakan The Unified Motivation Scales (UMS). Data dianalisis menggunakan uji statistik deskriptif dan uji statistik inferensial nonparametrik; uji chi-square dan regresi logistik. Penelitian ini menemukan bahwa tidak ada hubungan antara umur, jenis kelamin, status perkawinan dengan pelaksanaan IPSG. Pendidikan, status pekerjaan, masa kerja, dan motivasi memiliki hubungan dengan IPSG. Pendidikan dengan odds ratio = 33,469 dan kebutuhan berprestasi dengan odds ratio = 9,669 merupakan sub variabel yang berhubungan signifikan dengan penerapan IPSG di Ruang Rawat Inap RSUD Aceh. Berdasarkan hasil penelitian dapat disimpulkan bahwa karakteristik pendidikan perawat dan kebutuhan berprestasi merupakan prediktor paling signifikan terkait penerapan IPSG di Ruang Rawat Inap RS Pemerintah Aceh. Penerapan IPSG di Ruang Rawat Inap RS Aceh dapat terus ditingkatkan dengan selalu memotivasi perawat, memberikan reward, dan mendorong sikap need for achievement, affiliation dan need for power..

**Kata kunci:** Implementasi, IPSG, motivasi, perawat.

## **Introduction**

Patient safety is very important to provide a good health service. There is an evident consensus that quality healthcare worldwide must be effective, safe, and patient-centered. In addition, to realize the benefits of quality healthcare, health services must be on time, fair, integrated, and efficient. To ensure the successful implementation of patient safety strategy, it requires clear policies, leadership capacity, data to increase patient safety, skilled healthcare professionals, and effective patient involvement in their healthcare (Vincent, 2011).

WHO (2019) stated that the unexpected event due to unsafe treatment is one of the top 10 causes of death and disability in the world. Regarding to the incidence of patient safety in high-income countries, it is estimated that one out of ten patients is harmed while receiving hospital care. Harms can be caused by various unexpected events where about 50% of them are preventable. Each year, 134 million of unexpected events occur in hospitals in low and middle-income countries due to unsafe treatment and resulted in 2.6 million deaths. WHO (2019) released some of the most worrying situations of patient safety, including medication errors, infections, injuries due to surgical errors, unsafe injection practices, diagnostic errors, unsafe transfusion practices, excessive radiation exposure, sepsis, and venous thromboembolism. Globally, four out of the ten patients are harmed in primary health care and outpatient care where 80% of these unexpected events were preventable. The most harmed mistakes were related to the diagnosis, prescription, and the use of drugs. In high-income countries, 15% of total hospital activities and expenditures were direct side effects of poor care. Investments in reducing patient harm can lead to significant financial savings and better patient care. Prevention that involves the patient, if done properly, can reduce the danger to the patients up to 15% (WHO, 2019).

Based on reports in 2018, the most patient safety incidents that occurred in hospitals in Indonesia were near miss injury events (43.67%), which was errors in drug administration (29.2%), patients falling (23.4%), procedural errors during surgery (14.3%), and misdiagnosis (11%) (KKP-RS, 2016). Generally, data on patient safety incidents in general hospitals in Aceh Province were not found. However, data on patient safety incidents at Aceh Government Hospital in 2019 were 6,029 cases, which were 133 cases (2.2%) of the potential injury events, 5,434 cases (90.1%) of the near miss injury events, 364 cases (6.1%) of the non-injury incidents and 98 cases (1.6%) of the unexpected events

(KMKP, 2019). The patient safety incidents data at Aceh Government Hospital reflected that six targets of IPSG at hospital have not been properly implemented.

Regarding to improvements of patient safety in hospitals through health services, Indonesian Commission on Accreditation of Hospital stated that the patient safety goal is a mandatory requirement that must be implemented in all hospitals regarding to the importance of maintaining patient safety (KARS, 2017). The goals of patient safety in hospitals referred to Joint Commission International (JCI) and Nine Life-Saving Patient Safety Solutions. The International Patient Safety Goals (IPSG) consist of 6 objectives, which are: 1) Identify patients correctly; 2) improve effective communication; 3) improve the safety of high-alert medications; 4) ensure safe surgery; 5) reduce the risk of health care-associated infections; and 6) reduce the risk of patient harm resulting from falls (JCAHO, 2018).

Hospital nurses have a responsibility to improve the quality of health services. The nurse has a role in providing health services as comfortable as possible for the patients. In addition, as part of a multidisciplinary service, nurses are expected to find innovative solutions to improve patient safety that can be useful for them. Nurses play an important role in ensuring patient safety by monitoring patients, detecting errors, understanding the care process, and performing many other tasks to ensure patients receive high quality care that is according to IPSG (Steven, Magnusson, Smith, & Pearson, 2014). Al-Rafay, Shafik, and Fahem (2018) in their study suggested that nurses had a good knowledge about patient safety issues. However, the implementation of patient safety was still not enough. This previous study concluded that there was a significant difference between nurses' knowledge with practices regarding the implementation of IPSG. Furthermore, Syarianingsih Syam & Kurnia Widi Hastuti (2018) in their study found that there was no significant relationship between nurses' knowledge with the implementation of the International Patient Safety Goals. However, there was a significant relationship between nurses' attitudes with the implementation of IPSG.

Alam and Alabdulaali (2016) in their study showed that the level of nurses' awareness of patient safety quality and public safety was good. Adherence to the quality and patient safety policies were lower than the level of their knowledge. Abe and Tuppal (2018) found that there was a high average of IPSG's achievement level. The results of this previous study indicated that the Metropolitan Hospital in Manila, Philippines had a high

level of IPSG's achievement and remained at the core of healthcare delivery in every organization.

Meanwhile, an observation study conducted by Harsiwi, Insani, and Sundari (2017) about the implementation of IPSG by nurses showed that 2 out of 6 patient safety goals have been achieved optimally with the following details: Identify patients correctly (84%), improve effective communication (91%), improve the safety of high-alert medications (100%), ensure safe surgery (100%), reduce the risk of health care-associated infections (94%), and reduce the risk of patient harm resulting from falls (81%). The results of in-depth interviews to support quantitative data showed that the patient safety has been well implemented in the hospital, but not all of the goals have been achieved optimally. The obstacle in implementing the goals was the habit factors of the nurses. Documents and facilities related to patient safety objectives were fully available in all units. Several studies have shown the importance of the nurses' role in implementing IPSG in hospitals. The implementation of IPSG by nurses in the hospital can be an indicator of nurse's performance. It can be influenced by the sociodemographic characteristics and their motivation at work. Okab (2017) in his study found that there was a significant relationship between gender and age with the performance of nurses in the hospital.

The implementation of IPSG by nurses in Inpatient Rooms at Aceh Government Hospital based on the initial data collection through observation is still not enough. One of the example such as not identifying patients correctly and ineffective communication, especially between professionals. Furthermore, based on monitoring and evaluation of IPSG's implementation by nurses that carried out by Patient Safety Quality Committee in Aceh Government Hospital, it was found that the implementation of IPSG by nurses in inpatient rooms was still not optimal, with the following details: Identify patients correctly (there were still those who had not used the medical record numbers in identifying patients), improve effective communication (there were still nurses who have not done a feedback process when receiving instructions by phone), and reduce the risk of health care-associated infections (there were still nurses who have not carried out hand washing and hand disinfection procedures according to hand hygiene guidelines) (KMKP, 2019). Referred to the patient safety incident data, researchers' observation results, and the reports of monitoring and evaluation activities by Patient Safety Quality Committee in Aceh Government Hospital, it is suspected that this condition is related to the characteristics and work motivation of nurses in implementing the six goals of International Patient Safety in

inpatient rooms. As it is known, all nurses in the inpatient rooms in Aceh Government Hospital have received training on patient safety and IPSG. However, from the phenomena mentioned above, it is showed that the implementation of IPSG by nurses is still not optimal. So this study aims to determine the relationship between nurses' characteristics and motivation with the implementation of IPSG in Inpatient Rooms at Aceh Government Hospital.

## Method

This study was a quantitative study with a cross-sectional study design. The research population was all nurses in the Inpatient Room of the Aceh Government Hospital, which amounted to 387 people. The total samples were 122 nurses that were selected through a simple random sampling method. The sample criteria in this study were implementing nurses who worked in inpatient rooms, were not on leave, and were willing to be research respondents. Data collection was carried out from November 18th to December, 7th 2020, in the Inpatient Rooms at Aceh Government Hospital using a questionnaire that consisted of respondent's characteristics, the implementation of IPSG, and The Unified Motivation Scales (UMS) to find data about work motivation. All of the instruments have been tested for content validity and construct validity. Data were analyzed using descriptive statistical tests and nonparametric inferential statistical tests, chi-square, and logistic regression tests. The ethical feasibility test was done by the Health Research Ethics Committee of dr. Zainoel Abidin Hospital Banda Aceh with number 269/EA/FK-RSUDZA/2020 in October, 26th 2020.

## Result

**Table 1. Frequency Distribution of Respondents' Characteristics in Inpatient Rooms at Aceh Government Hospital (n=122)**

Characteristics	f	%
Age		
Early Adulthood	99	81,1
Middle Adulthood	23	18,9
Gender		
Male	5	4,1
Female	117	95,9
Latest Education		
Nurse Profession	55	45,1
Nursing Diploma	67	54,9
Marital Status		

Single	22	18,0
Married	99	81,1
Widower/widow	1	0,8
Employment Status		
Civil Servant	41	33,6
Contract Employees	81	66,4
Length of Work		
≥ 5 Years	84	68,9
< 5 Years	38	31,1

Table 1 showed the respondents' characteristics in Inpatient Rooms at Aceh Government Hospital, where 99 respondents (81.1%) were early adulthood, 117 respondents (95.9%) were female, 67 respondents (54.9%) had diploma degree in nursing, 99 respondents (81.1%) were married, 81 respondents (66.4%) were contract employment, and 84 respondents (68.9%) had been working for ≥ 5 years.

**Table 2. The Frequency Distribution of Nurses' Motivation of IPSG Implementation in Inpatient Rooms at Aceh Government Hospital (n = 122)**

Variable	f	%
Motivation		
High	55	45,1
Low	67	54,9
Need for achievement		
High	80	65,6
Low	42	34,4
Need for power		
High	46	37,7
Low	76	62,3
Need for affiliation		
High	49	40,2
Low	73	59,8

Generally, Table 2 showed that 67 respondents (54.9%) had low motivation in implementing IPSG in Inpatient Rooms at Aceh Government Hospital. In more detail, the following described the motivation based on its sub-variables, which were 80 respondents (65.6%) had a high need for achievement, 76 respondents (62.3%) had low need for power, and 73 respondents (59.8%) had low need for affiliation.

**Table 3. Frequency Distribution of IPSG Implementation in Inpatient Rooms at Aceh Government Hospital (n = 122)**

Variable	f	%
IPSG implementation		
Implemented	68	55,7
Partially implemented	54	44,3
Not implemented	0	0,0

Table 3 showed that 68 respondents (55.7%) have carried out international patient safety goals in the inpatients room at Aceh Government Hospital.

**Table 4. The Relationship between Nurses' Sociodemographic Characteristics with IPSG Implementation in Inpatient Rooms at Aceh Government Hospital (n = 122)**

Characteristics	The Implementation of IPSG				<i>p-value</i>
	Implemented		Partially Implemented		
	f	%	f	%	
Age					
Early Adulthood	56	56,6	43	43,4	0,882
Middle Adulthood	12	52,2	11	47,8	
Gender					
Male	3	60,0	2	40,0	1,000
Female	65	55,6	52	44,4	
Latest Education					
Nurse Profession	51	92,7	4	7,3	0,0001
Nursing Diploma	17	25,4	50	74,6	
Marital Status					
Single	18	81,8	4	18,2	0,088
Married	49	49,5	50	50,5	
Widower/Widow	1	100	0	0,0	
Employment Status					
Civil Servant	31	75,6	10	24,4	0,003
Contract Employee	37	45,7	44	54,3	
Length of Work					
≥ 5 Years	59	70,2	25	29,8	0,0001
< 5 Years	9	23,7	29	76,3	

Table 4 showed that there was no relationship between age ( $p\text{-value} = 0.882$ ), gender ( $p\text{-value} = 1,000$ ), marital status ( $p\text{-value} = 0.088$ ) with the implementation of IPSG, and there was a relationship between education ( $p\text{-value} = 0.0001$ ), employment status ( $p\text{-value} = 0.003$ ), and length of work ( $p\text{-value} = 0.0001$ ) with the implementation of IPSG in Inpatient Room at Aceh Government Hospital.

**Table 5. Characteristics of Nurses as Predictors in IPSG Implementation in npatient Rooms at Aceh Government Hospital (n = 122)**

Predictor	B	O R	<i>P-Value</i>	95% CI	
				<i>Lower</i>	<i>Upper</i>
Latest Education	3,511	33,469	0,0001	9,091	123,222
Length of Work	0,205	1,228	0,016	0,406	3,708
Constant	-2,546	0,078	0,0001		

Table 5 showed that the nurses' education characteristics was the most significant predictor related to the implementation of IPSG in Inpatient Rooms at Aceh Government Hospital ( $p\text{-value} = 0.0001$ ). The magnitude of the relationship was indicated by the odds ratio value (33.469), which was nurses with nursing profession as their latest education



will implemented the IPSG in the Inpatient Rooms at Aceh Government Hospital 33,469 times better than the nurses with nursing diploma as their latest education.

**Table 6. Nurses' Motivation in IPSG Implementation in Inpatient Rooms at Aceh Government Hospital (n = 122)**

Motivation	The Implementation of IPSG				<i>p-value</i>
	Implemented		Partially Implemented		
	f	%	f	%	
Motivation					
High	25	45,5	30	54,5	0,049
Low	43	64,2	24	35,8	
Need for achievement					
High	55	68,8	25	31,2	0,0001
Low	13	31,0	29	69,0	
Need for power					
High	17	37,0	29	63,0	0,002
Low	51	67,1	25	32,9	
Need for affiliation					
High	28	57,1	21	42,9	0,031
Low	26	35,6	47	64,4	

Table 6 showed that there was a relationship between the nurses' motivation with the implementation of IPSG in Inpatient Rooms at Aceh Government Hospital ( $p\text{-value} = 0.049$ ). Based on each motivation sub-variable, it is known that there was a relationship between the need for achievement ( $p\text{-value} = 0.0001$ ), the need for power ( $p\text{-value} = 0.002$ ), and the need for affiliation ( $p\text{-value} = 0.031$ ) with the implementation of IPSG in Inpatient Rooms at Aceh Government Hospital.

**Table 7. Nurses' Motivation as Predictors in IPSG Implementation in Inpatient Rooms at Aceh Government Hospital (n = 122)**

Predictor	B	OR	<i>P-Value</i>	95% CI	
				<i>Lower</i>	<i>Upper</i>
Need for achievement	2,269	9,669	0,0001	3,566	26,217
Need for affiliation	-1,707	0,181	0,001	0,069	0,474
Constant	-0,053	0,948	0,864		

Table 7 showed that the need for achievement as one of the motivation sub-variables was the most significant predictor related to the implementation of IPSG in the Inpatient Rooms at Aceh Government Hospital ( $p\text{-value} = 0.0001$ ). The magnitude of the relationship was indicated by the odds ratio value (9.669), which was nurses who had a high need for high achievement will implement the IPSG in the Inpatient Rooms at Aceh Government Hospital 9.669 times better than the nurses who had a low need for achievement.



## **Discussion**

### **The Characteristics of Nurses**

The study found that 56.6% of the nurses in early adulthood and 52.2% of nurses in middle adulthood has implemented IPSG. Furthermore, the study also found that there was no relationship between the nurse's age and the implementation of IPSG in Inpatient Rooms at Aceh Government Hospital ( $p\text{-value} = 0.882$ ). According to Robbins and Judge (2017), positive qualities that older employees bring to their work, such as experience, judgment, strong work ethic, and commitment will affect their work quality. However, older employees are also less flexible and tend to reject new technology. IPSG or patient safety goals are a new pattern in maintaining patient safety. IPSG is a mandatory requirement that must be implemented in all hospitals regarding the importance in maintaining patient safety (KARS, 2017). A study conducted by Harsiwi, Insani, and Sundari (2017) also argued that one of the obstacles in implementing IPSG was the habit of nurses which were difficult to change. A study by Morika, Suharizal, & Yasmi (2018) mentioned that more than half of nurses (60%) over 30 years old had a good performance. It was not much different when it compared to young nurses who are less than 30 years old. The result of this study was different from the previous study conducted by Safrudin & Milkhatun (2019) who found that there was a significant relationship between the nurse's age with the compliance in implementing patient safety in the hospital.

Related to gender, 55.6% female nurses and 60.0% male nurses had implemented the IPSG. The results of this study indicated that there was no relationship between the nurse's gender with the implementation of IPSG in Inpatient Rooms at Aceh Government Hospital ( $p\text{-value} = 1,000$ ). The nursing profession has been shaped by several socio-cultural factors. The nature of nursing as a caring care profession has led people to perceive nursing as a profession that women are engaged in. The nursing's social image has led men to avoid nursing as a job because it is culturally perceived as a woman's job. The most common reasons for male nurses to become a nurses were career opportunities, salary, and job security. Meanwhile, the most perceived barriers reported by male nurses to become a nurse were sexual stereotypes and the prospect of working in a female-oriented profession (Alghamdi, Topp, & AlYami, 2018). Robbins and Judge (2017) stated that there were no consistent differences between male and female in problem-solving skills, analytical skills, competitive drive, motivation, social skills, or learning abilities. However, the previous study also found that female was more likable and conform to authority, whereas male was

more aggressive and more likely to have expectations of success, but that difference was very small.

A study by Audet, Bourgault, and Rochefort (2018) concluded that higher nurse education was associated with a lower risk of death and failure to help patients. This findings was supported by a study conducted by Audet et. al (2018) who found that there was a significant relationship between nurse's education with the implementation of IPSG in the Inpatient Rooms at Aceh Government Hospital (p-value = 0.000). Another study conducted by Fero et al. showed that undergraduate nurses carried out patient's examinations, nursing care, and nursing documentation in a better way than what is done by diploma degree nurses (Feng, Chen, Chen, & Pai, 2010). Furthermore, a study by Weinberg, Cooney-Miner, and Perloff (2012) explained that the percentage of nursing profession undergraduates did not have a significant influence to the care's quality or safety, although the work environment was equally quality for each occupational group, but this variable had a significant and positive relationship with the nurse's interactions, quality of care, and patient safety. A study conducted by Gunawan, Hariyati, and Gayatri (2019), from their results of multivariable analysis, it can be concluded that there were four variables that showed a significant relationship to the nurses' performance, which were length of work, latest education level, perceptions in applying team nursing methods and work motivation (p-value = 0.018; 0.032; 0.010; 0.004).

The most dominant factor seen from the odds ratio was the latest education level (2.438) and the smallest one was the length of work (1.198). Further study conducted by Desta et al. (2018) also stated that more than two thirds (84.7%) of nurses were have a good knowledge, but only 86 (57.3%) out of them showed good infection prevention practices. Older age, longer work experience, and higher educational status were significantly associated with the infection prevention knowledge and practices. On-the-job training, availability of infection prevention supplies, and adherence to infection prevention guidelines were also linked to the infection prevention practices as part of patient safety goals. This opinion was in accordance with the results of multivariable analysis in this current study which found that the nurse's education was the most significant predictor related to the implementation of IPSG in Inpatient Rooms at Aceh Government Hospital (p-value = 0.0001, with an odds ratio = 33.469), which explained that nurses with a nursing profession as their latest education will carried out IPSG in Inpatients Room at Aceh

Government Hospital 33,469 times better than the nurses with nursing diploma as their latest education.

The study indicated that there was no significant relationship between the nurse's marital status with the implementation of IPSG in Inpatient Rooms at Aceh Government Hospital ( $p\text{-value} = 0.088$ ). This variable that may affected a person's job satisfaction was marital status. However, there was not enough evidence to make conclusions about the effect of marital status on job satisfaction. But the limited previous studies conducted in this area had consistently shown that married persons were more satisfied with their job than unmarried ones. The reason was that marriage will increased responsibilities which could made regular work more valuable and important (Azim, Haque, & Chowdhury, 2013). Olatunji and Mokuolu (2014) in their study stated that there was a significant difference between married and unmarried nurses. Married nurses had a higher level of job satisfaction than unmarried nurses. Unmarried nurses reported higher levels of work stress than married ones.

A study conducted by Chu and Hsu (2011) concluded that there was no significant difference between contract and full-time nurses was found in terms of job performance. However, when assessed by supervisors, the reported performance levels for full-time nurses were significantly higher than contract nurses. The results of this study showed that there was a significant relationship between the employment status of the nurses with the implementation of IPSG in Inpatient Rooms at Aceh Government Hospital ( $p\text{-value} = 0.003$ ). Different opinions were conveyed by Permatasari and Febryani (2018) in their study which were the variables related to the performance of nurses were work motivation, work environment, and work unit; while gender, age, education level, employment status, and length of work were not related to the performance of nurses. Ng and Feldman (2010) in their study also concluded that there was evidence of a linear relationship between length of work and nurse's performance. Although the relationship between length of work and the performance was generally positive, the strength of the association decreased with increasing the nurse's length of work. The results of this study indicated that there was a significant relationship between the nurse's length of work with the implementation of IPSG in Inpatient Room at Aceh Government Hospital ( $p\text{-value} = 0.000$ ). However, this study results were contradicted from previous study by Permatasari and Febryani (2018) who found that gender, age, education level, employment status, and length of work were not associated with the nurse's performance.

### ***Nurse's Motivation***

A study conducted by Karo, Barus, and Tumanggor (2019) concluded that there was a relationship between nurse's motivation with the infection prevention and control in the hospital (p-value = 0.001). The same statement was also stated by Rianita and Suryani (2019). In their study, it was found that there was a relationship between motivation with the nurse's compliance in infection prevention and control (p-value 0.000). This opinion supported this current study results which found that there was a relationship between the nurse's motivation with the implementation of IPSG in the Inpatient Rooms at Aceh Government Hospital. The data from this research showed that from 122 respondents, 55 respondents have high motivation, and 67 respondents have low motivation. Then the results of testing the relationship between motivation and the implementation of the IPSG show a p-value of 0.049, which means that motivation has a relationship with the implementation of the IPSG. The test results are also strengthened by the number of IPSG implementations which reached 55.7% of the total respondents. This study also supported by Gunawan, et. al (2019) who found that there were four variables that showed a significant relationship to the nurse's performance, which were length of work, education level, perceptions in applying the team nursing method, and work motivation (p-value = 0.018; 0.032; 0.010; 0.004).

The study results also showed that there was a relationship between the need for achievement as one of the nurse's motivations with the implementation of IPSG in the Inpatient Rooms at Aceh Government Hospital (p-value = 0.000). Johnson, Irizarry, Nguyen, and Maloney (2018) stated that the need for achievement was the desire to accomplish something difficult, master in complex tasks, achieve high standards of success, and surpass others. McClelland (2010) defined the need for achievement as a competition with several standards of excellence. In this definition, researchers described that individuals who were willing to take risks to achieve goals might fail in any situation, but that commitment and concentration on it would be their satisfaction (Buchanan, 2019). Furthermore, Lambrou, Kontodimopoulos, and Niakas (2010) stated that the motivation of nurses based on the theory of needs with the highest rank was the need for achievement, which was significantly higher than others. Al-hasan and Arriff (2019) also stated that motivation had a positive and very significant effect on work performance. Therefore, it can be ascertained that motivation can attract the success and work performance of nurses in the hospital. This opinion was also in accordance with this current multivariable analysis study

result which found that the need for achievement as one of motivation sub-variable was the most significant predictor related to the implementation of IPSG in Inpatient Rooms at Aceh Government Hospital (p-value = 0.0001, with an odds ratio = 9.669) which explained that nurses who had a high need for achievement will implemented IPSG in Inpatient Rooms at Aceh Government Hospital 9,669 times better than nurses who had low need for achievement.

Furthermore, based on the results of this study, it was found that there was a significant relationship between the need for power as one of the motivation sub-variable with the implementation of IPSG in Inpatient Rooms at Aceh Government Hospital (p-value = 0.002). The results of this study were in accordance with a study conducted by Jooste and Hamani (2017), who stated that nurses need recognition, organizational responsibility, strategic planning and promotion, and also support. It was related to motivation based on the need for power. Hypothesis test results showed that there was a significant relationship between nurse motivation based on the need for power with performance in the hospital. However, the need for excessive power will lead to conflicts with other nurses (Nayeri & Jafarpour, 2014). A study by Yi and Park (2015) mentioned that nurses who had a high need for affiliation or need for achievement showed a very high level of skill and work effectiveness. Factors that influence the performance of nurses were the need for affiliation and the need for achievement. In addition, factors that influence work effectiveness were the need for affiliation and the need for achievement. These findings supported this current study result which there was a relationship between the need for affiliation with the implementation of IPSG in Inpatient Room at Aceh Government Hospital (p-value = 0.031).

## **Conclusion**

Based on the study results, it can be concluded that nurse's education and the need for achievement were the most significant predictors related to IPSG implementation in Inpatient Rooms at Aceh Government Hospital. Implementing IPSG in the Aceh Hospital Inpatient Room can be continuously improved as part of the responsibility in ensuring the quality of nursing services and patient safety by always motivating nurses, providing rewards, and encouraging the emergence of an attitude of need for affiliation and need for power.

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