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The Development Analysis of Post Graduate School Program of Occupational Health Nursing (OHN), Workforce and The Challenges in Poltekkes Kemenkes Jayapura (A Case Study)



Isak Jurun Hans Tukayo¹, Syaifoel Hardy², Moh. Saljan³, I Ketut Swastika⁴

^{1,3,4}Nursing Department, Poltekkes Kemenkes Jayapura, Indonesia

²Indonesian Nursing Trainers

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Abstract

Introduction: There are several large industries in Papua that are engaged in oil exploration to wood processing. Yet, there is an imbalance between the need for OHN experts and the production of nurses due to the absence of OHN postgraduate educational facilities in Papua. The objective of this article is to analyze the development of OHN postgraduate education programs from the Occupational Safety and Health (OHS) perspectives. **Methods:** The study used literature review method by implementing SWOT Analysis that emphasized on policy issues on nursing education and its specialties, especially OHN. The data were collected from various sources, including the Ministry of Health, the Ministry of Manpower, BPPSDM, PPNI, and journals from within and outside the country. Document review was conducted from January 2016 to December 2020. **Results:** After intensive SWOT analysis, the research showed that the Poltekkes of the Ministry of Health of Jayapura was potentially supportive to develop postgraduate nursing education of OHN programs. In addition to adequate human resources, sufficient land for practice and the prospective of industrial job opportunities for newly graduates. **Discussion:** The discussion in this study used SWOT (Strength, Weaknesses, Opportunity, Threat) Strategy by (Gurel, 2017) which was then developed in to internal factors that include strengths and weaknesses, and external factors that include opportunity and threats.

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✉Correspondence Address:

Poltekkes Kemenkes Jayapura – East Java, Indonesia

Email: saderun@gmail.com

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INTRODUCTION

The development of the industries in Papua has not been matched by the availability of nursing personnel with the postgraduate educational level in the field of Occupational Health Nursing (OHN). The development of specialist nursing education is still lacking or not yet available in Indonesia (Efendi et al., 2018). According to (Jurun et al., 2020) the number of OHN nurses in Indonesia is relatively rare. This scarcity is evidenced by the lack of scientific work on OHN (Tukayo & Hardy, 2020). Whereas industries keep on developing and require updated healthcare services including nurses working in industrial sectors (Tukayo IJH & Hardy, 2020). The number of global nurses until 2018 reached 27.9 million, of which 19.3 million were professional nurses (WHO Region, 2018). This shortage decreased to 5.9 million nurses in 2018 (Efendi et al., 2018). Approximately 5.3 million (89%) of the shortage are in low and middle to lower income countries (WHO Region, 2018). Currently Indonesia only meets 60% of the needs of nurses according to world standards (Media Indonesia, 2020). If we follow the Universal Health Coverage (UHC) recommendation, the demand for nurses will increase along with the government efforts to meet the target for the number of nurses as recommended (Efendi et al., 2018). However, government analysis reveals that 31,150 Indonesian nurses are unemployed (Efendi et al., 2018). This means the empowerment of Indonesian nurses is still not maximal, including in the industrial nursing sector.

Based on data as of April 26, 2020, the Ministry of Industry (Kementerian Tenaga Kerja dan Transmigrasi, 1980) stated they had issued operational permits and mobility for industrial activities to 14,533 companies. These companies come from the agro industry, chemical, pharmaceuticals and textiles, metal industries, machinery, tools and electronics, small, medium and various industries, as well as industrial estates and industrial services (CNBC, 2020). The industrial sector has a total workforce of 4,330,215 people (CNBC, 2020). The Central Bureau of Statistics (BPS) data notes that out of 34 existing provinces, Papua is in the lowest position with a poverty rate of 26.8% (BPS, 2020). This figure is below West Papua (21.7%) and East Nusa Tenggara (21.21%). In other words, Papua's resources are very minimal. Nevertheless, there are several large industries in Papua engaged in gold, oil exploration to wood processing. As of August

2020, the number of industrial estates in Papua is 121 (BPS, 2020). Several large industries such as PT Freeport, BP, Genting Oil, Bintuni Utama Murni Wood, Hastra Pasifik Papua and Biak Veneer Jaya are big companies in the fields of oil, gold mining and timber exploration in Papua (Januar, 2019). These companies are in need of healthcare services for their employees' wellness. However, the problems faced by nursing services in Papua are generally the same as other nurses in Indonesia (Efendi et al., 2018; Hardy, 2012). According to WHO, the role of OHN nurses includes clinician, nursing manager, adviser, educator, researcher and coordinator (WHO Regional office for Europe, 2001). The absence of postgraduate level educational institutions not only hampers the career path of the nursing profession in Papua, but also the quality and quantity of OHN services. At present the number of educational institutions in Indonesia, of the 38 existing Poltekkes of the Ministry of Health, only two are in Papua, one is the Poltekkes of the Ministry of Health in Sorong and the other one is Poltekkes of the Ministry of Health in Jayapura (BPPSDM, 2020). The Poltekkes education level is Diploma 3 and 4 (Efendi et al., 2018). At present there are 4 campuses at undergraduate level (1 state campus and 4 private campuses (Stikes Papua, Stikes Jayapura, Stikes St. Aloysius Papua and Cenderawasih University). However, Papua has special autonomy region, promulgated through Law 21/2001, November 2001 (Januar, 2019). The implementation of governmental decentralization can exercise Papua's rights to self-determination by utilizing the political, socio-economic and cultural space created through special autonomy without having to become a threat to the sovereign state (Azmi Muttaqin, 2014). The government has also shown steps to overcome the Human Resources crisis in health (Kurniati et al., 2015). This article tries to explore the possibilities of Papua if it is capable of developing the master program of OHN education. To answer this question, an extensive study is required to assess the strengths, weaknesses, opportunities and threats of Papua, Papuan, its environment, law and regulations.

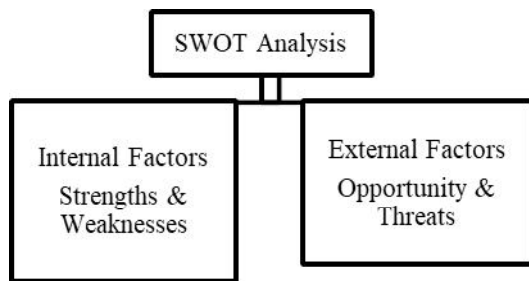
METHODS

This study analyzed the results of extensive literature reviews through electronic and printed materials about OHN nurses, the situation of nurses

in Indonesia, OHN nursing education and training as well as human resources on teaching OHN in Indonesia. The results were analyzed by utilizing relevant information from the Google Scholar, ProQuest, and Scopus databases, in Indonesian and English from within and outside the country, from the Ministry of Health, Ministry of Manpower, Indonesian Nurses Association (PPNI), Human Resources Development and Empowerment Agency (BPPSDM), Ministry of Education and Culture and other relevant institutions. The data was processed then analyzed using the SWOT Analysis Strategy with 2x2 matrix elements (Gurel, 2017). This article was the result of selected extracts from these various sources which were then collected and assessed for their relevance. Document extraction and review was carried out from January 2016 to December 2020. The SWOT analysis includes four components viz organizational strengths' character that give advantages, organizational weaknesses' characters that place disadvantages, organizational opportunity is external elements that give benefits and the organizational threats that could cause trouble for the organization (Gurel, 2017).

RESULTS

The results of the analysis of this study used a SWOT analysis by (Gurel, 2017).



Source: Gurel, (2017). P. 2.

Figure 1 SWOT Analysis

Strenghts

The Table above shows that the number of nursing study programs occupies the largest portion (11 programs or 52.3%) compared to other study programs.

No	Study Program	Location	Accred.	Number of Students in Each Level				Total
				I (2019)	II (2018)	III (2017)	IV (2016)	
1	Pharmacy D III	Jayapura	B	92	74	93	47	306
2	Nutrition D III	Jayapura	B	40	39	44	43	166
3	Midwifery D III	Jayapura	B	51	67	38	65	221
4	Midwifery D III	Biak	B	77	187	358	58	680
5	Midwifery D III	Mimika	B	21	23	46	34	124
6	Midwifery D III	Nabire	B	55	44	48	50	197
7	Nursing D III	Jayapura	B	131	106	76	105	418
8	Nursing D III	Wamena	C	77	125	113	78	393
9	Nursing D III	Biak	B	51	70	81	81	283
10	Nursing D III	Merauke	B	72	74	71	76	293
11	Nursing D III	Timika	B	87	61	46	59	253
12	Nursing D III	Nabire	B	170	392	439	77	1078
13	Nursing D III	Kep.Yapen	B	30	55	71	80	236
14	Sanitation D III	Jayapura	B	47	84	58	75	264
15	Sanitation D III	Mimika	C	30	25	43	25	123
16	Lab Tech D III	Jayapura	B	144	158	165	107	574
17	Nutrition & Dietetics D IV	Jayapura	B	46	44	59	62	211
18	Midwifery D IV	Jayapura	B	30	32	55	50	167
19	Nursing D IV	Jayapura	B	0	0	54	81	135
20	Ners Profession	Jayapura	B	97	0	0	0	97
21	Total			1256	1586	1865	1206	5913

Source: BPPSDM, Ministry of Health, P. 107, (2020)

Figure 2 Student Distribution of Departmentwise in Poltekkes Jayapura 2019

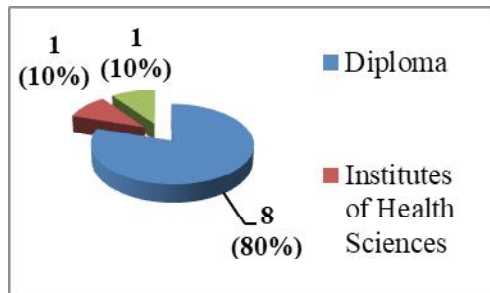
Weaknesses

In Indonesia, there is no nursing campus that has ever held OHN program and no campus figures are used as examples (Tukayo IJH & Hardy, 2020). This statement is supported by the findings of Efendi et al. (2018) where the number of OHN postgraduate specialization education is not yet available in Indonesia. The second weakness is the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 7 of 2020 concerning the Establishment, Change, Dissolution of State Universities, and the Establishment, Change, Revocation of Private Higher Education Permits, Article 4, paragraphs 5 and 6 which states the Study Program in the master program or an applied master program can be held after the Study Program in the same branch of science in the undergraduate program or diploma four or applied bachelor's program has been accredited with the lowest accreditation rating Very Good (Kemendikbud, 2020).

Opportunity

This Occupational Health and Safety (OHS) Teaching Material Module includes 6 modules with the composition of the Nature of Occupational Safety and Health, Occupational Safety and Health

in General, Occupational Safety and Health in Laboratories, Hospitals and Occupational Safety and Health in Industry (BPPSDM, 2016). All these facilities are owned by the Jayapura Poltekkes in terms of infrastructures and their access. Likewise, the employment opportunities, both at home and abroad which are not yet utilized (Putro, 2020).

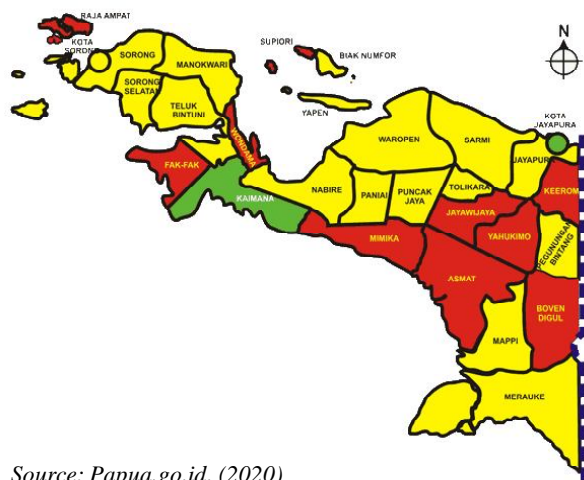


Sources: Ristekdikti, (2018)

Figure 3 Level of Education of Nursing Colleges in Papua 2018

The diagram above shows that the majority of nursing education in Papua is at the Diploma program level, both Diploma 3 with duration of 3 years and diploma 4 with duration of 4 years, as many as 8 campuses. For the undergraduate level, there are two institutions, one Institute of Health Sciences and one university.

Threats



Source: Papua.go.id, (2020)

Figure 4 Map of Papua Province

The map of Papua in Figure 6 shows the Papua Province, an area of 316,553.07 square km with a population of 3,435. 430 (BPS, 2020). The unequal distribution of development and population over a large area of land in Papua province poses challenges related to the dissemination of information, application of information technology as well as communication and transportation (Putro, 2020). In addition, the diversity of ethnic groups in Papua and a history of conflict between tribes has made social and political problems a challenge in overall development (Bhakti & Pigay, 2016). Regarding health problems, Papua also still has relatively high morbidity and mortality rates (Kemenkes RI, 2019), because access, socio-economic conditions and the level of public awareness are still lacking (Sandila et al., 2020). Another external element is in the form of policies that do not recommend education in service departments whose output is difficult to find work (BPPSDM, 2020). Especially in this pandemic era where government costs were drained to handle Covid-19 (Kementrian Keuangan, 2020). In general, Indonesia is an archipelago with more than 17,000 islands, consisting of 34 provinces and is one of the most populous countries in the world (Asyatur, 2018).

DISCUSSION

Strenghts

The discussion on Strenghts according to (Tanya Sammut-Bonici, 2017) includes finance, managerial, infrastructure, production, distribution of relationships, marketing (marketing), brand equity and innovation resources. According to (Gurel, 2017) all internal characteristics that provide benefits are called strenghts. According to the Minister of Manpower Regulation No. PER-04 / MEN.1987, concerning the Committee for Occupational Safety and Health (P2K3) and the Procedure for Appointing Labor Experts, article 2 states that every company that employs 100 people or more is obliged to form P2K3. So far there has been no research on how many OHN nurses work for (Tukayo IJH & Hardy, 2020). Poltekkes Kemenkes Jayapura is an educational institution with Accreditation B (BPPSDM, 2020). The number of lecturers is more than 200 people, the ratio of lecturers to students is 1:12; the number of students is more than 4000

spread across 17 study programs, 9 of which are nursing study programs, in 7 regions in Papua province. Financially, Poltekkes Jayapura is an established infrastructure supported by the government. Currently, courses related to OHN are still integrated in Community Nursing, with 9 semester credit units (SKS). Yet, the Jayapura Health Polytechnic organizes Diploma IV program with Bachelor of Applied Sciences degree. On the occupational health working opportunity perspectives, there are 4,330,215 company workers (CNBC, 2020), in which ideally 4,332 should be available of OSH experts are needed. This is necessary because companies need high performance indicators (IPIECA, n.d.). One of the K3 experts involved in achieving this goal is the P2K3 committee, namely the industrial nurses (OHN). In addition, of the total 889 nursing education institutions that exist in Indonesia, not one has organized the OHN program (Efendi et al., 2018). Moreover, health education development is part of the investment (WHO Region, 2018). Thus, in terms of finance, management, infrastructure, production, relationships, and equity and innovation resources, the Jayapura Health Polytechnic has the potentials to develop OHN's postgraduate level education department.

Weaknesses

Weaknesses according to Gurel (2017) what is meant here are all internal elements that cause losses / weaknesses for the organization. Papua is a special autonomous region (Januar, 2019). Papua's right to special autonomy related to the education sector has not been maximized. This weakness can be a flaw because it relates to central policies, even though on the side of the Special Autonomy for the Papua region which was promulgated through Law 21/2001, November 2001, where there is protection of the basic rights of the Papuan people to develop themselves (Januar, 2019). However, the development of education by utilizing local wisdom can be used as basic capital in developing education (Hidayat, 2016) at a higher level as we have seen, for example on the island of Bali (Wigunadika, 2018). This component in Papua includes the availability of large practice areas for the nursing students. The large number of existing industries make OHN postgraduate students more flexible when carrying out field practices as well as prospective jobs

opportunity. This means that the proposal for the establishment of an OHN postgraduate program can be fought for through the Papua regional legislative approach and across sectors. The problem of unavailability of human resources, namely lecturers, can be overcome through competency development programs through training at a number of campuses that already have OHS postgraduate programs (Hardy, 2012). Lecturers need to study the strategy of the postgraduate education program implementation program to find out the position of the Masters Study Program and the implementation of other things that need to be developed in the future as suggested (Hubeis, 2018). Some references from abroad can be used as input in the development of OHN postgraduate education programs at the Jayapura Health Polytechnic, for example the standards used in the USA (AAOHN, 2004), OHN teaching (Oakley, 2003; OSHA, 2015), according to the recommendations of the OHN material from Rogers et al (2009). So that the output is in accordance with international standards as the role of OHN nurses (WHO Regional office for Europe, 2001).

Opportunity

According to Gurel (2017) what Opportunity means is all external elements that provide opportunities for the organization. Data from (Ristekdikti, 2018) shows that there are 10 nursing campuses in Papua Province, i.e. 2 state campuses and 8 private campuses, which include 8 campuses holding nursing diploma programs, 1 campus holding Diploma and Bachelor of Nursing levels and the other one holding only Bachelor of Nursing program. This demonstrates the possibility of developing the education of the master level program is widely open in Papua, as is the direction of the national education goals (Tukayo, 2020). This step is also in line with the goals of health policies contained in the National Health System (Tumurang, 2019). Providing master degree education program in Papua will sustainance Papuans' wellbeing in terms of career opportunity and livelihood.

Threats

According to (Gurel, 2017) all external elements that cause disruption to the organization are categorized as Threats. Geographically, infrastructure development, communication and the

population of Indonesia are major challenges faced in the implementation of many program in Papua. Formal education programs at the undergraduate and postgraduate level specialist occupational safety and health (K3) have been so far organized by the Faculty of Public Health at many large campuses outside Papua (University of Indonesia, Gajah Mada University, Diponegoro University, Airlangga University, Hasanudin University) (Tukayo IJH & Hardy, 2020). This has resulted in Papuans who are interested in learning OSH have to leave the island of Papua. This threat is actually at the same time an opportunity. With the establishment of the OHN Postgraduate program in Papua, it will reduce the burden on Papuans who want to study OHN at the level of master degree. As for the existence of lecturers who are temporarily bringing in support from outside Papua, this can be overcome by training lecturers at the Papua Health Polytechnic, because the majority of lecturers at the Poltekkes Jayapura are indigenous Papuans (Tukayo, 2021, Personal Communication).

CONCLUSION

One of the noble goals of the establishment of the Republic of Indonesia is the achievement of intellectual life of the nation. This effort is not easy because in its history the nation has faced many obstacles and challenges, especially in developing natural and human resources in Papua as one of the youngest provinces in Indonesia. However, Papua has great potentials that deserves to be an example in the development of the industrial health sector, especially in the OHN nursing field. Papua has several international level industries that need support through the development of specialist nursing education, namely by establishing OHN postgraduate program at the Jayapura Health Polytechnic. To initiate this plan requires justifiable study from an academic point of view. This article has attempted to explore the potentials of the Jayapura Health Polytechnic using the SWOT Analysis strategy by Gurel (2017). SWOT analysis is a very popular method used by organizations for strategic management and marketing. It is a tried and true strategic analysis tool. It is expected that the results of this analysis will be useful for the preparation of a proposal for the establishment of OHN postgraduate education program at the Poltekkes of Jayapura. The shortcomings of this article is that it is not supported by the survey. Still,

it can serve as a reference for further research in order to know the concrete steps in implementing the OHN postgraduate program at the Jayapura Polytechnic of Health.

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