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# Health Needs Assessment for Health Promotion in an Indonesian District of West Java

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## 英文抄録

**Purpose** : To describe and assess the health needs in a district of West Java, as perceived by selected health professionals in the district in order to explore a strategy for strengthening community health and nursing of the district for health promotion.

**Methods** : Case study design was used. Data regarding health needs of the district were collected guided by the Precede-Proceed Model through interviews and documents and assessed. Seven participants from the district health office, a district hospital, a nursing school, and a health centre were interviewed. Documents on the websites of the Indonesian Ministry of Health, West Java provincial health office, a district office, and a district health office, and organizational records of the district health office and a nursing school were reviewed.

**Results** : District health needs were derived from multiple aspects : epidemiological, educational and ecological, and administrative and policy. Epidemiological aspects : remaining needs of maternal and child health ; low access to sanitation ; increasing noncommunicable diseases (NCDs) ; increasing HIV/AIDS and related environment factors were demographic changes due to increased life expectancy ; economy supported by oil industry revenue ; increased mobility of workers and weak sanitary systems. Educational and ecological aspects : insufficient functioning of referral system ; limited human resources for health promotion ; and limited health-sector budget. Administrative and policy aspects : majority of nurses had minimal level nursing education and minimal community nursing education ; existing district health strategy for maternal and child health, sanitation, HIV/AIDS, and NCDs ; and limited focus on NCDs for role description of community nurse.

**Conclusion** : Major health needs were identified in maternal and child health, sanitation, HIV/AIDS, and NCDs, insufficient referral system, limited human resources for health promotion, and limited health-sector budget. This study concludes that a local government should address these complicated health needs in order to promote health of people. It is also recommended that a local government should provide continuous education for community nurses to strengthen their collaborative skills with the community for promoting healthy-lifestyle behaviors, and capacity for surveillance of high-risk individuals and follow-up.

**Keywords** : Health Promotion, Needs Assessment, Indonesia

## I. Introduction

Indonesia is in a period of epidemiological transition. The number of noncommunicable diseases (NCDs) is

increasing rapidly, even though Indonesia still has heavy burden of communicable diseases. This double burden of high communicable and increasing NCDs is placing additional pressures on the health system (World Bank, 2008).

Due to the changes in demography and epidemiological pattern of diseases, it is an opportune time for Southeast Asian countries to revisit community health with the focus on illness prevention and health promo-

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tion (World Health Organization Regional Office for South-East Asia, 2011a). The promotion of health across the life span and prevention of disease are the most important components for reducing the burden of premature mortality and disability due to NCDs. (World Health Organization, 2008). In addition to reducing the level of exposure of individuals and populations to the common modifiable risk factors for NCDs—namely, tobacco use, unhealthy diet, physical inactivity, and the harmful use of alcohol—it is important to strengthen the capacity of individuals and populations to make healthier choices and to follow lifestyle patterns that foster good health.

The Indonesian Ministry of Health is in the process of revitalizing health centres that can address health policy direction that prioritizes health promotion and prevention without ignoring cure and rehabilitation (Kementerian Kesehatan Republik Indonesia, 2010). Indonesia's health care is delivered through an extensive primary care system, which relies heavily on midwives and nurses. However, the nurses' role in the community is limited to immunization services, antenatal care, and communicable disease treatment (World Health Organization Regional Office for South-East Asia, 2011b). Moreover, the strategic objectives for health development in most of the Indonesian districts focus on maternal and child health and curative services with little specific targeting for NCD prevention yet nursing is widely recognized as critical to illness prevention and health promotion (Chiverton et al., 2003). A district in West Java provides such an example and is the focus of this study.

Precede-Proceed Model is the most widely used planning model for the development and evaluation of health promotion and policy programs in the world (Glasgow, 2011). It was developed in the 1970s and revised in 1991 and again in 2005. The new version is more streamlined, consisting of four planning phases, one implementation phase, and three evaluation phases. The four assessment phases include: (1) social, (2) epidemiological, behavioral, and environmental assessment; (3) educational and ecological assessment and (4) administrative and policy assessment. The newest version offers a more efficient planning model that merges two phases (that is, epidemiological assessment and behavioral, and environmental assessment) (Gielen et al., 2008). In order to strengthen the community health and nursing (as an integral part of community health) within the district of West Java in collaboration with Indonesian researchers, it is crucial to understand

the community health needs. However, there is limited information on those needs from the perspective of health promotion. Therefore, it is necessary to assess the health needs of the community in order to develop and strengthen community health.

## II. Purpose

The purpose of this study was to assess and describe the health needs in a district of West Java in order to recommend a strategy for strengthening basic nursing education and health strategies in the district for health promotion. The following four goals were set: 1) describe and assess the health needs in the district from an epidemiological aspect; 2) describe and assess the health needs from an educational and ecological aspect; 3) describe and assess the health needs from an administrative and policy aspect; and 4) synthesize the district health needs and recommend a strategy for strengthening basic nursing education and health strategies in the district.

## III. Definition

Health needs: In this study, health needs were defined as deficiencies to redress and assets to strengthen in health including health professionals' perception of health sector's measurements (health indicators) and policy makers' perception of resources, feasibility, and policy.

## IV. Methods

### 1. Study field

The study field was a district of West Java in Indonesia. The district was located in the North coastal area of West Java and east from the capital city, Jakarta. The district had a population of 1.8 million in 2008 with the majority (90.6%) of Muslim (calculated from Resmi Pemerintah Provinsi Jawa Barat, 2012). The proportion of working-age population (15–64 years) was the majority (67.3%), followed by younger population (0–14 years) (27.5%), and elderly population (over 65 years) (5.2%) (Badan Pusat Statistik Kabupaten Indramayu, 2010). The vast plains make the district one of the suppliers of the national rice production. Hundreds of artesian wells that produce oil and natural gas, which are distributed for consumption in West Java and Jakarta, contributes to the wealth of the district (Pusat Data dan Analisa Pembangunan Jawa Barat, 2012).

## 2. Participants and recruitment

The researchers purposively recruited participants from the district health office, a district hospital, a nursing school, and a health centre. These participants were recruited because they were uniquely positioned to have field experience and an educated perspective based on their role in developing health strategies, educating health professionals, and providing health care services in the district.

## 3. Design

The design used in this study was a descriptive case study using Yin's, (2008) method because little is known regarding the health needs in this district of West Java. Yin's case study design provides for a complete systematic description of a phenomenon within its context and relies on the triangulation of multiple sources of qualitative and quantitative evidence.

## 4. Theoretical framework

This study was guided by the Precede-Proceed Model (Green et al., 2005), which is the most widely used planning model for the development of health promotion and policy programs in the world (Glasgow, 2011). The model provides a highly verified structure for systematic and comprehensive data gathering and analyses. The model contains two components : Predisposing, Reinforcing and Enabling Constructs in Educational Diagnosis and Evaluation (PRECEDE) and Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development (PROCEED). The Precede consists of a series of planned assessments, and is followed by the Proceed, which is marked by the strategic implementation of multiple actions based on the findings of the Precede. The Precede assessment process contains four phases : social assessment (Phase 1), epidemiological assessment (Phase 2), educational and ecological assessment (Phase 3), and administrative and policy assessment (Phase 4).

Social assessment (Phase 1) focuses on the community and their perceptions of social conditions and quality of life concerns. Since the study participants were health professionals, we omitted Phase 1 and focused on Phase 2, 3, and 4 to assess the health needs in the district. Phase 2 includes health, health behavior, and an environmental assessment and Phase 3 includes causal factors such as predisposing, reinforcing and enabling factors. Enabling factors are skills, resources, or barriers that can help or hinder the desired behavioral and environmental changes. Phase 4 includes educational strate-

gies and policy and administrative capabilities and resources.

## 5. Data collection

The data were collected in September 2012. Multiple sources of evidence including documentation and interviews were used. The data regarding the epidemiological and the educational and ecological aspects were collected through semi-structured interviews from participants and through reviewing documents. The data regarding the administrative and policy aspect were mainly collected through extant documents.

Each interview was conducted in the official language of Bahasa Indonesia by the bilingual Indonesian researcher, and the Indonesian researcher translated participant's responses into English for the Japanese researcher. Interviews lasted approximately 32 minutes on average including the time for translation.

The researchers used an interview guide to help keep the interview on track. The interview guide was based on the Precede-Proceed model. The key questions of the interview guide included the followings : What are health needs in the district? ; What are environmental needs? ; Describe the district health system, how does it function? ; What health services are provided? ; What kind of human resources for health do you have? ; Describe your basic nursing education ; What is financial basis for health sector? ; What is the district health strategy to maintain or promote health of people?

The data was audio-recorded and written on field notes with participants' consent, translated from Indonesian language to English, and transcribed. The third author (Indonesian) transcribed data and the first author (Japanese) and third author arrived at a consensus for the name of the categories. The Indonesian researcher was a lecturer at a university in Indonesia. She had 10 years of baccalaureate nursing education experience in Indonesia and had been supporting students to conduct research. The three authors were involved in the study from the beginning. We continually collaborated about the study purpose, contents and methods when we developed the research proposal, as well as when conducting the research.

Documents about the health needs in the district were searched from the national, provincial, and district government websites. Documents on the websites of the Indonesian Ministry of Health, West Java provincial health office, a district office, and a district health office were reviewed. Organizational records that the

researchers obtained during the visit of the district health office and nursing school in the district were also reviewed.

## 6. Data analysis

Based on Yin (2008), the data was analyzed to stipulate a presumed set of causal links about it, or “how” or “why” something happened to “explain” a phenomenon. The process was :

- (1) Describe the health needs in the district from an epidemiological aspect.
- (2) Describe the health needs in the district from an educational and ecological aspect.
- (3) Describe the health needs in the district from an administrative and policy aspect.
- (4) Synthesize the district health needs and recommend a strategy for strengthening basic nursing education and health strategies in the district.

## 7. Ethical consideration

This study was conducted following ethical considerations including voluntary participation, privacy protection, and data security. The study was conducted together with a researcher from Syarif Hidayatullah State Islamic University, Jakarta. The permission for conducting the study was granted by Kepala Dinas Kesehatan Kabupaten (the Director of the District Health Office) and Kepala Badan Kesatuan Bangsa, Politik dan Perlindungan Masyarakat (the Director of the Agency for National Unity, Politics, and Community Protection). The researcher sought the organizations' cooperation in the research in written format in advance about the research purpose, method, requests, and ethical consideration. Participants were recruited from the organizations that agreed to participate in the research. Before beginning data collection, the Indonesian researcher explained the purpose and the process of the study to the participants and their written informed consent was obtained. The data that they provided were recorded only with the participants' consent and were treated anonymously. Audio data and interview transcripts were securely stored in a locked place. All data will be destroyed three years after the study is complete. The research ethics committee of St. Luke's College of Nursing, Japan approved the study (Approval number 11-029).

## 8. Validity and reliability

Yin (2008) recommended the following four tests to establish the quality of the study : construct validity,

internal validity, external validity, and reliability. Yin noted that internal validity is only for explanatory study and not for descriptive or explorative study and that external validity is for generalizability, which in this case then would only apply to the health needs of this one area in the district. Therefore, we focused on the remaining two tests : (1) Construct validity, meaning identifying the correct operational measures for the concepts being studied. We defined the specific concept of “health needs”. Then, to describe perceived health needs of health professionals, we used multiple sources of evidence (interviews and documents) for data collection. Data taken only through interviews may indicate certain shortcomings in the measure. Therefore, documents were also reviewed in order to corroborate, extend and enrich the data.(2) For reliability, the field notes were developed as a case study database so that the operation of the study could be repeated. Throughout the study procedure, the researcher received consistent supervision from the second author, a professor who had more than 15-year experience of post-graduate nursing education, practice, research and publications and developed the doctoral course in global health nursing.

## V. Results

Seven health professionals participated in the interviews. They were a director of the district health office, a director of the district hospital, a group of three nursing lecturers of a nursing school, and two staff of the health centre.

Health needs assessments of the district are described next from three aspects : (1) epidemiological, (2) educational and ecological, and (3) administrative and policy. Each health needs assessment included data from the documents and the data from the interviews.

### 1. Epidemiological aspect of the health needs

The phase of epidemiological assessment included two main areas. The first was the identification of the health needs and secondly the environment.

- 1 ) Health needs. The following four health needs were derived : maternal and child health, sanitation, non-communicable diseases, and HIV/AIDS.

(1) Remaining needs of maternal and child health. Every participant reported about needs involving maternal and child health. They pointed out the relatively high maternal mortality ratio and high infant

mortality rate. The district infant mortality rate (IMR) was 47 out of 1,000 live births, which was higher than the provincial average (39/1,000). The district maternal mortality ratio (MMR) was 108 out of 100,000 live births, which was higher than the provincial average (95/100,000) (Dinas Kesehatan Provinsi Jawa Barat, 2008). Serving as a background about the high MMR and IMR, the antenatal visits and delivery of health care services in the district were derived. Pregnant women in the district who received antenatal care four times were 61.5%, which was lower than the rate in West Java (79.7%). Women in the district who delivered supported by skilled health personnel were 56.2%, which was lower than the rate in West Java (71.4%) (Dinas Kesehatan Provinsi Jawa Barat, 2008).

"MMR and IMR were focus of health effort in the area. Recently, MMR caused by eclampsia was higher than postpartum hemorrhage, in which previous time postpartum hemorrhage was the major problem caused MMR. The health district office is now investigating this unique trend."

(2) Low accessibility to sanitation. Two participants reported sanitation as a health need. One participant thought that approximately 25% of the community lacked accessibility to latrines, which means they must use open fields or the river.

"Perilaku Hidup Bersih dan Sehat (PHBS) which means behavior toward healthy lifestyle and sanitation is a big problem in the district, for example, limited access to sanitary water especially during dry season. Around 100,000 out of 400,000 houses do not have sanitary toilet."

(3) Increasing noncommunicable diseases. Two participants reported NCDs like hypertension as an emerging health issue due to an aging society. A participant reported that hypertension was one of the main morbidities in the health centre and was common in West Java. It was the third leading cause of morbidity for outpatients aged 45-64 and the leading morbidity for outpatients over aged 65 at health centres in West Java. Three out of the top ten morbidities for outpatients aged 45-64 and over 65 in hospitals in West Java were NCDs, including hypertension, cardiovascular diseases, and diabetes mellitus (Dinas Kesehatan Provinsi Jawa Barat, 2008).

"For NCDs, hypertension, diabetes, cardiac diseases are common problems among elderly in the district. Posbindu is health center in village level specific for promoting elderly health."

(4) Increasing HIV/AIDS. Two participants

reported HIV/AIDS as an increasing health issue in the district because of the existence of people who work abroad. In the district, 47 HIV cases were found in 2007. The number of people living with HIV/AIDS increased about 120% from 686 in February 2012 to 825 in October 2012 (Kompas, 2012).

"HIV/AIDS now is increasing in the district. The HIV/AIDS cases were high among returned female workers who have been working in overseas. Around 70% cases related to unsafe sexual behavior and about 30% related to drug abuse. Strategy related this issue, the district hospital just opening a ward specific for integrative care management of HIV/AIDS cases."

2) Environment. There were four environmental factors. These were derived as a background of the aforementioned health needs.

(1) Demographic change due to increased life expectancy. One participant reported that improvement in life expectancy contributed to their aging society. The life expectancy of the district was reported as improved from 65.2 in 2006 to 66 years in 2008. The proportion of working-age population (15-64 years) was the majority (67.3%), followed by younger population (0-14 years) (27.5%), and elderly population (over 65 years) (5.2%) (Badan Pusat Statistik Kabupaten Indramayu, 2010).

"Health strategy in the district is purposed to improve human development index. Life expectancy in this district is 66, which improved. Number of elderly is also tend to increase, thus we need to revitalize Posyandu (health post) to provide services for children and elderly as well."

(2) Economy supported by revenue of oil industry. The district is the fourth biggest contributor to the provincial budget, which accounts for 7.4% of the district gross domestic products. The dominant sector contributing to the gross domestic product was oil and gas (66.1%) in 2008 (calculated from Resmi Pemerintah Provinsi Jawa Barat, 2012).

(3) Increased mobility of workers and HIV/AIDS. One participant reported that certain types of mobility among workers contributed to the HIV epidemic. Of the 10,358 people living with HIV/AIDS in West Java, about 30% reside in the Northern coastal region, which includes the study district. The Northern coastal region became vulnerable because of the unsafe sexual behavior commonly found among people employed for transportation such as : truck and bus drivers, bus ticket sellers, parcel deliverer, and fishermen (Kompas, 2012). Out of the total 14,495 registered workers in the dis-



trict, 2,915 of them (20.1%) are working abroad (Pemerintah Kabupaten Indramayu, 2012b). A study conducted in Central Java found that the majority of Indonesian people suffering HIV/AIDS were Indonesians working or ever had been working abroad (Sukesi et al., 2012).

“Working abroad is a highly expected by young people in the district. Averagely 300 to 400 young workers per village (number of village in the district is 316 villages) work overseas such as Mideast, Korea, China, Malaysia and Japan.”

(4) Weak sanitary system infrastructure. As of 2009 of the total 492,549 households in the district, there were 337,100 (68.4%) households having clean water facilities like taps and wells (Pemerintah Kabupaten Indramayu, 2012a). Latrine availability for households was approximately 25%.

“Limited access to sanitary water especially during dry season. Around 100,000 out of 400,000 houses do not have sanitary toilet.”

## **2. Educational and ecological aspect of the health needs**

This phase of educational and ecological assessment includes causal factors such as enabling factors.

Enabling factors. Participants reported three weak enabling factors : insufficient functioning of the referral system ; limited human resources for health promotion ; and the district's limited budget for the health sector.

(1) Inefficient functioning of the referral system. A participant reported that people go directly to the hospital due to insufficient management ability at health center level. A participant reported that they provided delivery care, immunization and curative care for diseases at a health centre. The participant also mentioned that they referred patients to a hospital in case of severe conditions like uncontrolled hypertension, cardiac failure, and kidney failure.

“Many patients come to this hospital without referral from Puskesmas (health center) which mandated by health insurance rules. When patients come directly to the hospital without referral, it is dilemmatic, in one side we cannot reject the patients but on the other hand we cannot charge the expenses to government. Thus, often the patients have to pay by themselves.”

(2) Limited human resources for health promotion. A participant reported limited human resources for health promotion. Only 50% of the human resource target was accomplished for the district. The ratio of doc-

tors (specialist and generalist) per 100,000 people in the district was 6.0, which was lower than the provincial average of 7.0. The ratio of nurses was 52.3, and that of the midwives was 25.4, which was higher compared to the provincial average, respectively 36.3 and 19.1 (Dinas Kesehatan Provinsi Jawa Barat, 2008).

“Number of nursing and midwife personnel for Puskesmas (health center) and hospital were enough. However, midwife for villages is still limited as well as number of physician and dentist also need to be added. There is a policy ‘one midwife for every village.’ ”

(3) Limited budget for health sector. A participant reported that only 1% of the district budget is allocated for the health sector. The total district health budget was 4.2% and the per capita health budget was 28,737 Indonesian rupiah [approximately USD \$3.0], which was lower than for West Java, respectively 5.2% and 49,408 rupiah [approximately USD \$5.1] (Dinas Kesehatan Provinsi Jawa Barat, 2008).

“The health budget in the district was about 1.125% from total budget of the district. The province budget was 8.5%, we expected to have about 10% so we could do health promotion to improve healthy behavior.”

## **3. Administrative and policy aspect of the health needs**

Administrative and policy assessment entails the analysis of resources and political supports. These are to enable the development of educational and environmental supports for community action.

### **1 ) Educational strategies**

(1) Majority of nurses had minimal level nursing education. The majority of nurses (55.9%) in the district completed their education at SPK or Sekolah Perawat Kesehatan (equivalent to high school), followed by diploma (43.7%), and bachelor's degree (0.4%). The rates for West Java were, respectively 40.7%, 57.7%, and 1.7%. The majority of midwives in the district completed their education at the diploma level (95.8%), which was similar to the rate in West Java (94.0%) (Calculated from Dinas Kesehatan Provinsi Jawa Barat, 2008.).

(2) Minimal community nursing education at diploma level. Class credits for community nursing at diploma level were about half the number credits at the bachelor's level. According to the World Health Organization Regional Office for South-East Asia (2011c), there are about 15 class credits for community, family, and gerontology for the bachelor's of nursing. Class credits for community, family, and gerontology nursing

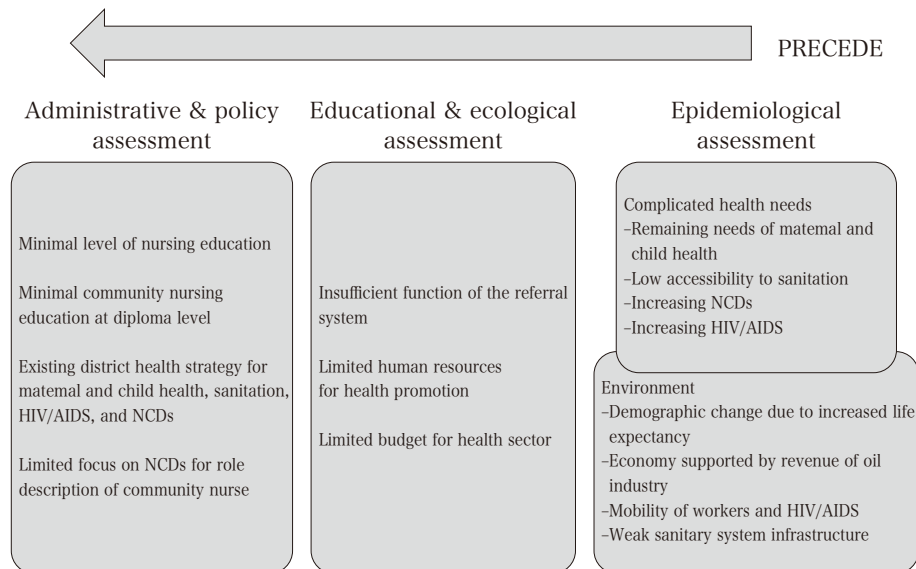


Figure 1 Health Needs Assessment for Health Promotion in an Indonesian District of West Java

in a diploma level nursing school in the district, were seven credits. The total credits were 32 credits points : five for medical surgical nursing, four for pediatric nursing, four for maternal nursing, four for acute care nursing, four for nursing administration, four for psychiatric nursing, three for community nursing, two for family nursing, and two for gerontology nursing.

“Credits for community nursing in our school is three credits, divided into classroom and practicum. Community nursing practicum is around five weeks and becomes nine weeks if combined with geriatric and family nursing.”

## 2) Policy, regulation, and organization

(1) Existing district health strategy for maternal and child health, sanitation, HIV/AIDS, and NCDs. Four main health needs, namely maternal and child health, sanitation, HIV/AIDS, and NCDs were articulated in the 2011-2015 strategic objectives for health development in the district (Dinas Kesehatan Kabupaten Indramayu, 2012). The following six objectives were stated : 1) improve community independence and empowerment ; 2) improve healthy environments ; 3) improve maternal and child health and nutritional status ; 4) improve access and quality of basic health services ; 5) improve prevention and control of diseases and 6) improve the management of government. Specific targets on maternal and child health, sanitation, HIV/AIDS, and NCDs were described.

(2) Limited focus on NCDs for role description of community nurse. The community nursing services were focused on maternal and child health and communicable disease but had little focus on NCDs and HIV/

AIDS. Based on the Ministry of Health’s decree on community health nursing (No 279 year 2006) (Kementerian Kesehatan Republik Indonesia, 2006), the following six services were described : health promotion ; maternal and child health ; nutrition ; communicable diseases ; healthy environment ; and treatment.

## VI. Discussion

A model of health needs assessment in a district of West Java for health promotion was derived from a synthesis of the findings(Figure 1 )and compared with the national trends. The researchers then discussed the implications of the findings for basic nursing education and health strategies of the district and strengths and the limitations of the study.

### 1. Health needs in the district

The district of West Java was suffering from complicated health and environmental needs. In addition to maternal and child health and sanitation needs, NCDs were an increasing health needs. As a background, demographic changes due to improved life expectancy and economy supported by oil industry were reported. The situation was similar to that of the nation as a whole. While Indonesia still has the burden of communicable diseases, the number of NCDs is increasing rapidly (World Bank, 2008). In Indonesia, of all deaths, NCDs have increased from 52% in 2004 (World Health Organization, 2009) to 64% in 2008 (World Health Organization, 2011) representing a 12% increase in four years. The demographic changes are closely associated

with changes in the cause of death (World Bank, 2008) ranging from communicable diseases to deaths from NCDs. The life expectancy of people in Indonesia has increased from 65 in 1990 to 68 in 2008 (World Health Organization, 2012b) and the proportion of working-age population has increased from 59.5% in 1990 to 66.9% in 2010 (United Nations, 2010). The nutritional transition brings an epidemic of diet-related NCDs. Economic growth has contributed to lifestyle changes like greater food consumption in Indonesia (Rada et al., 2010).

Moreover, HIV/AIDS was an increasing health issue in the district due to the mobility of people. Although HIV prevalence is still low, the increase of prevalence is high, which will bring additional burdens to the district. The trend is similar the nation as a whole. Although the aggregate national HIV prevalence is still low (0.3%) (Jakarta Post, 2012), the increase of reported cumulative AIDS cases in Indonesia is high, making it one of the fastest growing epidemics in Asia (World Health Organization Regional Office for South-East Asia, 2007).

As a background of complicated health and environmental needs, this study found needs related to inefficient functioning of the referral system at the health centre with its limited human resources for health promotion and limited district health sector budget. The health service given in the health centre was prone toward curative treatment rather than health promotion and disease preventative treatment. To address complicated health needs, it is important to promote healthy lifestyles for all people throughout the health care continuum (World Health Organization, 2012a). For an effective health care continuum, disease prevention and health promotion at the health centre is necessary.

Although, the district health strategy for maternal and child health, sanitation, HIV/AIDS, and NCDs existed, the assessment revealed a complex web of system weaknesses : inefficient functioning of the referral system at the health centre with its limited human resources for health promotion and limited district health-sector budget, minimal level nursing education, minimal community nursing education at diploma level, limited focus on NCDs for the role description of community nurses. Furthermore, credits for community nursing education are less at the diploma level than at the bachelor's level. The majority of nurses working in health centres completed their education at a diploma or high school equivalent level. Limited focus on credits for community nursing at the basic education level may

prevent new nurses from having enough competencies for actual practice.

To address the complicated health issues, more attention should be given to preventive and promotive health care by existing human resources for health. The role of community nurses should be activated because they are the front-line healthcare provider in the district.

## **2. Implications for strengthen basic nursing education and health strategies in the district**

Implication for basic nursing education. In order to meet the health needs of increasing NCDs and HIV/AIDS in the district, basic education for nursing and midwifery needs to be gradually strengthened at the bachelor's level. Indonesia is in the process of providing higher education in nursing. Bachelor's programs in nursing increased from one in 1985 (Persatuan Perawat Nasional Indonesia, 2013) to 318 in 2011 (Asosiasi Institusi Pendidikan Ners Indonesia et al., 2012). Moreover, since most of the nurses working for health centres complete their education at diploma or high school level, emphasis on community nursing education at those levels is crucial. It is also necessary to promote existing nurses' access to continuing education related to NCDs prevention and health promotion.

Implications for district health strategy. In order to meet the district's health needs, health systems need to be strengthened with the support of health policy and strategy. More attention should be given to complex health needs of maternal and child health, sanitation, HIV/AIDS, and NCDs. The guideline for the community nurses should include the complex health needs of the district including NCDs in order to provide a framework for nursing interventions in the community.

Preventative and promotive health care should be strengthened. For example, health education about *Perilaku Hidup Bersih dan Sehat* (healthy and clean lifestyle behavior) should be strengthened at the *Posyandu* (community health post for maternal and child health) and the *Posbindu* (community health post for elderly). Health education for healthy lifestyle behaviors is necessary because some NCDs (e. g. cardiovascular diseases, diabetes) and some maternal health issues for example eclampsia have shared risk factors such as hypertension, raised blood glucose, and obesity. To compensate for the limited human resources for health promotion, it is necessary for community nurses to collaborate with key community people such as the



Kaders (health volunteers), village chiefs, and imams (religious and community leaders). Health centers and the health district need to educate community nurses in order to improve and maximize their capacity to collaborate with community people.

To address the insufficient functioning of the referral system, it is necessary to activate the role of community nurses. Their capacity for case-finding of high-risk people in the community, follow-up of high-risk people, and referring patients whenever necessary should be strengthened.

Even with the limited budget it should be allocated appropriately to support implementation of preventive and promotive health care. In order to do so, further studies are needed to support the study findings to encourage policy makers in recognizing the health needs in the district.

### 3. Strength and limitations

The strength of this study was that it provided information from the perspectives of health professionals on the health needs of the community in a district of West Java in Indonesia from the perspective of health promotion.

However, the study was limited in that data were gathered only from health professionals. Further study is needed to include participants' perspectives from the people who receive healthcare in order to understand public's perceived needs and priorities. In addition, there was the usual caution regarding researcher bias in interpreting the data due to the language barrier. The collaboration process with the Indonesian researcher served to minimize researcher bias.

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# インドネシア西ジャワ州 A 県におけるヘルスプロモーションのための保健ニーズアセスメント

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**目的:** 本研究の目的は、インドネシア西ジャワ州 A 県における保健専門職の保健ニーズを記述・アセスメントし、ヘルスプロモーションに向けた地域保健・看護強化のための戦略を探索することである。

**方法:** 研究デザインは、ケーススタディを用いた、Precede-Proceed Model を枠組みとし、文書とインタビューにより、県の保健ニーズに関するデータを収集・分析した。文書は、インドネシア保健省、西ジャワ州保健局、県庁、県保健局のウェブサイトおよび県保健局と県看護学校の資料をレビューした。県保健局、県看護学校、保健センターからの 7 人の対象者にインタビューを実施した。

**結果:** 県の保健ニーズは、疫学、教育・組織、運営・政策の側面から得られた。疫学的側面は、残存する母子保健のニーズ、衛生へのアクセス不十分、増加する非感染性疾患、増加する HIV/AIDS があり、関連する環境要因は、平均寿命の延伸による人口構造変化、石油産業の収入による経済、労働者の移動の増加、衛生システムの整備不足があった。教育・組織的側面は、不十分なリファラルシステム、健康増進のための保健人材不足、保健セクターの予算不足であった。運営・政策的側面は、大多数のナースが最小限の看護基礎教育、最小限の地域看護教育を受けていること、母子保健、衛生、HIV/AIDS、非感染性疾患についての県保健戦略が存在すること、地域看護の役割のなかで非感染性疾患への焦点が限られていることであった。

**結論:** 西ジャワ州 A 県の主要な保健ニーズは、母子保健、衛生、HIV/AIDS、非感染性疾患、不十分なリファラルシステム、健康増進のための保健人材不足、保健セクターの予算不足であった。県保健局は、住民の健康増進のために、この複雑な保健ニーズに対応することが課題である。また県保健局は、住民と協働して、住民の健康的なライフスタイル行動の促進、ハイリスク集団の発見とフォローアップを行っていくための地域保健担当看護師への継続教育の強化が必要であると提言される。

**キーワード:** 健康促進, ニーズアセスメント, インドネシア