Community diagnosis in Sei Selayur urban village, Palembang, Indonesia: Actual approach for the assessment of health and social factors

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Abstract Community diagnosis is a comprehensive assessment of the community state as a whole in relation to economic, social, physical, and biological environmental conditions. This study aimed to determine the priority of health-related problems and its potential problem-solving interventions. Community diagnosis process was carried out in the 41st neighborhood (*Rukun Tetangga*, RT 41), Sei Selayur, based on Lawrence Green's theory. Primary data were gathered through interviews, observations, and physical examinations. Meanwhile, secondary data was taken from Kalidoni primary healthcare profile. Home selection was based on maximum variance sampling. The priority of the problem was determined using the Reinke method, and the priority of the root cause of the problem was based on the Hanlon method. Final step in this activity is the determination of the problem-solving actions. Based on the results of the analysis, the main health problems found were Acute Respiratory Infection (ARI), hypertension, and hyperuricemia. These diseases were associated with knowledge, non-routine consumption of medications, and poor diet. Problem-solving alternative is implemented by referring to the PRECEDE-PROCEED theory in accordance with the needs of residents of RT 41. The biggest health problem in the community was an acute respiratory infection, which is associated mainly with knowledge factors. The Lawrence Green's community diagnosis theory, also known as the PRECEDE-PROCEED theory, can be used to enhance the precision of community diagnosis and make it possible to be applied in a broader context to achieve favorable health promotion.

Keywords: community health, PRECEDE-PROCEED, problem priority, problem intervention alternatives

1. Introduction

Community health is an inter-sectoral, inter-collaborative enterprise that employs public health sciences, evidence-based approaches, and other strategies in a culturally appropriate manner to improve the health and quality of life for everyone residing within a defined community or several communities (Goodman et al 2014). Indonesian community is composed of a rural and urban environment. Due to the differences in educational background, physical activity (including facilities), and habit (particularly smoking), these populations also have variable health behavior (Fogelholm et al 2006). Because of its capability to present the actual condition in the population, a method known as community diagnosis has been established to investigate the civilization's environmental, social, and cultural features (Vaidya et al 2008).

Community diagnosis is a comprehensive assessment of the community state as a whole concerning its economic, social, physical, and biological environmental conditions (Thapa et al 2012). It is composed of a quantitative and qualitative description of the resident's health status and the influencing factors. Implementation of community diagnosis is expected to correctly identify health problems and facilitate health promotion, disease prevention, and health service management in the community (Bhargava et al 2016).

Community diagnosis is based on Lawrence Green's theory, the PRECEDE-PROCEED theory, consisting of nine phases (Räihä 2014). These phases are: (1) social diagnosis, (2) epidemiological diagnosis, (3) behavioral and environmental diagnosis, (4) educational and organizational diagnosis, (5) administrative and policy diagnosis, (6) implementation, (7) process evaluation, (8) impact evaluation and (9) outcome evaluation (Weiss, 2016). The implementation includes epidemiological, social, environmental, and health personnel data components; in this theory, selecting suitable alternative innovations and evaluation plans is determined as the goal (Porter 2016).

We conducted a community diagnosis process in Sei Selayur urban village, Palembang, Indonesia. A community diagnosis needs to be carried out in the environment to establish the health status of the community and the problems inherent in the environment. Thus, the aim of this study was to determine the priority of health-related problems and potential problem-solving interventions for the community.

2. Materials and Methods

Primary data were gathered through interviews, observations, and physical examinations in ten houses in the 41st neighborhood (*Rukun Tetangga*, RT), Sei Selayur urban village, in order to collect the existing problems by December 2019. This area is included in the working area of Kalidoni Public Health Center, Palembang, Indonesia. The approximate mapping of this area is presented in Figure 1. The list of houses with the highest potential to provide health data is discussed with informants who helped to provide an overview of the local situation. House selection was based on maximum variance sampling to obtain data on health problems that were able to describe the majority of problems in the community environment.
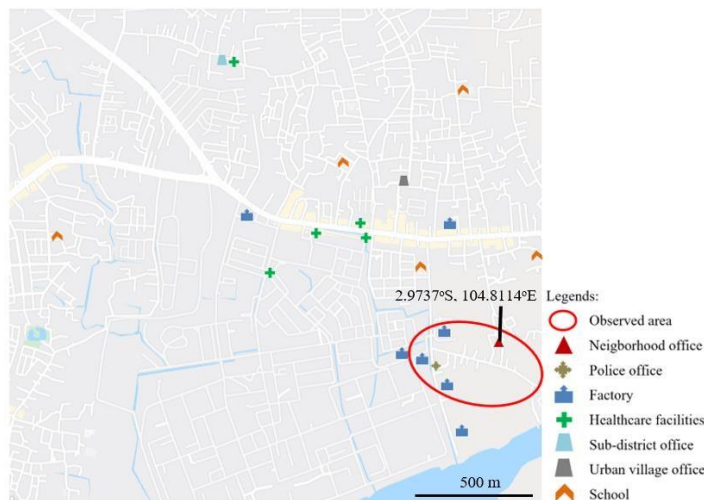

Figure 1 41st neighborhood mapping with adjacent Kalidoni Public Health Center Area. Source: maps.google.com, retrieved on January 7, 2020. Coordinates were determined at the 41st neighborhood office.

The results of the data collection were grouped based on the L. Green's theory (Weiss 2016) can be seen in Figure 2. Data in the first through fifth phases were obtained through direct observation in the field; secondary data was collected from the problem identification matrix and Public Health Monitoring Survey in Kalidoni Public Health Center. Problem priority was determined using the Reinke method (cost analysis), which contains the Magnitude (M) criteria, describes the magnitude of the problem; Importance (I), the type of population group affected by the problem; Vulnerability (V), whether or not there are methods or other ways to solve the problem effectively and Cost (C), whether it needed abundant resources or not to undertake the problem. Meanwhile, the root cause priority (Tables 2, 4, and 6) was evaluated by using the Hanlon method, with components of A (problem magnitude, 0-10 points); B (seriousness of the problem, 0-20 points from a total of four factors, which are urgency, severity, economic burden and involvement of others); C (intervention effectiveness, 0-10 points); D (probability of implementation, 0 or 1 point for every PEARL (propriety, economics, acceptability, resources, and legality) parts (Choi et al 2019). The final step is the determination of the problem-solving actions. This step is in accordance with L. Green's theory, especially phases 6 through 9.
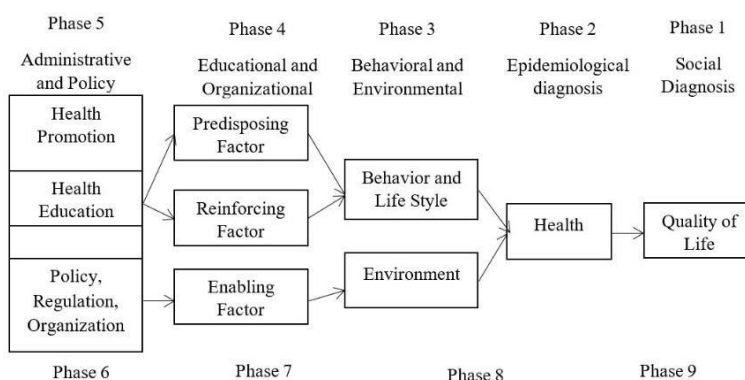

Figure 2 PRECEDE-PROCEED Model.

3. Results

3.1 Social Diagnosis

Interviews, with the help from informants, and field observations, were used to perform these activities. The term "social diagnosis" refers to determining a person's quality of life and social issues and needs. According to the results of home visits, the dependency ratio was relatively high, with only 39.4% of family members working and about 60% of the work being laborers, either manufacturing plants or construction workers. Furthermore, the level of education is quite low, with the majority of the population only having completed elementary school (32.07%). There were also 5.66% of residents who were not receiving formal education.

3.2 Epidemiological Diagnosis

Disease data was collected on residents by collecting illnesses that were currently or previously impacting the respondent in the previous three to six months. Figure 3 depicts the cases that were discovered.

As shown in the corresponding bar chart (Figure 3), five major diseases recognized during the observation were Acute Respiratory Infections (ARIs), hypertension, myalgia, hyperuricemia, and pulmonary tuberculosis. After the list of problems had been compiled, the problem priority was chosen. Disease data were scored based on the factors of interest and understanding of Focus Group Discussion (FGD) participants, consisting of RTs chief, Public Health Center, health cadres, and researchers. The results, along with the calculation using Reinke approach, are shown in Table 1. It is decided that ARIs, hypertension, and hyperuricemia were disorders that required particular considerations and were assessed to determine their potential solutions.
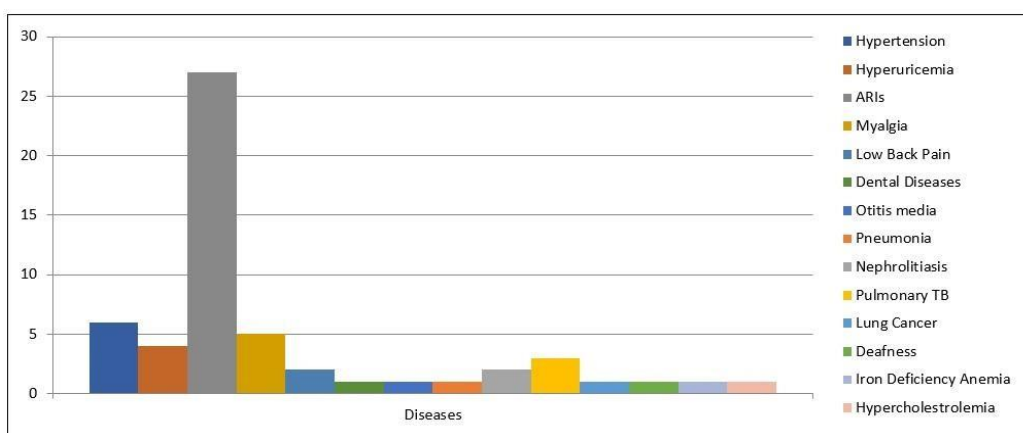

Figure 3 Observed diseases during home visits. Note: ARIs = Acute Respiratory Infections, TB = Tuberculosis.

Table 1 Determination of health-related problems priority.

Diseases	Magnitude (M)	Importance (I)	Vulnerability (V)	Cost (C)	Total	Priority
Acute Respiratory Infection (ARIs)	5	5	5	2	62,5	I
Deafness	1	4	2	5	1,6	XII
Dental Diseases	1	4	3	3	4	X
Hypercholesterolemia	2	5	4	5	8	VII
Hypertension	5	5	5	5	25	II
Hyperuricemia (*Gout arthritis*)	5	4	4	5	16	III
Iron Deficiency Anemia	1	4	4	2	8	VII
Low back pain	4	4	3	4	12	IV
Lung Cancer	1	5	1	5	1	XIV
Myalgia	5	2	3	3	10	V
Nephrolithiasis	1	3	2	5	1,2	XIII
Otitis media	1	5	5	4	6,25	IX
Pneumonia	1	5	2	3	3,33	XI
Pulmonary Tuberculosis	1	5	5	3	8,33	VI

Note: Each criterion gets a value of 1 to 5. The final value is obtained through the formula $\frac{M x V x I}{C}$.

3.3 Behavioral and Environmental Diagnosis

This stage evaluated the behavioral factors and environmental sources of each condition discovered. The absence of clean and healthy living behavior, particularly in smoking behavior, as 100% of the residences visited had at least one family member who smokes, is one of the predictors of behavior. The same facts remain when it comes to physical exercise. On this metric, 100% of households have family members who are less physically active and do not exercise regularly. 90% of chronic disease sufferers implement non-routine drug usage. Due to a lack of resources, healthy eating was also constrained. Meanwhile, environmental issues include the unhealthy housing conditions, with 60% of houses having inadequate ventilation

(the area does not reach 1/9 of the building), and stressful working conditions (shift system that disrupts breaks and meals) which places a heavy burden on family earners. Environmental concerns such as substandard housing, lack of sewerage, and proximity to numerous factories, such as fertilizer, tire, and food manufacturers, make this area particularly prone to infectious diseases and air pollution.

3.4 Educational and Organizational Diagnosis

This process aimed to identify behavioral and environmental conditions related to health status and quality of life by considering the causative factors and identifying factors that can be transformed. There are three main groups in this diagnosis, namely:

a) Predisposing factors: The level of knowledge is generally low (only up to remembering), community attitudes were generally still positive because they accept input from researchers, there is no specific belief system (there is only 1 in 10 houses that trust alternative medicine), public perceptions are generally good for children's health including immunization, although there were two houses that do not carry out complete immunizations.

b) Strengthening factor: Support and motivation from stakeholders, family, and neighbors are inadequate.

c) Enabling factors: Integrated Post of Non-Communicable Diseases (*Pos Bina Terpadu Penyakit Tidak Menular, Posbindu PTM*) or Elderly.

d) Integrated Health Post (*Pos Pelayanan Terpadu, Posyandu*) was not available, a limited number of residents joined the National Health Insurance, and access to transportation is limited even though health care facilities are relatively not too far away (the nearest clinic is one kilometer away from the location).

3.5 Administration and Policy Diagnosis

This process was oriented to the analysis of policies, resources, and events that support or hinder the development of health promotion. The process includes:

a) Administrative diagnosis: Limited funds and personnel in the health sector, so the construction of health posts is still limited, the commitment of officers must still be improved, and the performance burden is quite heavy in the process of carrying out tasks.

b) Policy diagnosis: Support from stakeholders is still lacking, and the implementation of health programs for chronic diseases has not been maximized.

3.6 Implementation

3.6.1 ARIs

Problem analysis aimed to determine the root cause of ARIs in the community. The analysis was carried out using the Hanlon method, as illustrated in Table 2. It is found that the main etiological factor of high ARIs prevalence is related to community knowledge.

The causes of the low level of public knowledge about the disease were analyzed based on the epidemiological concept of the cause of the problem using a web of causation based on the epidemiological concept of infectious diseases (Figure 4). The root causes of insufficient knowledge can be traced to three components: poor processing of information, inadequate information, and poor transfer of information. Based on this analysis, the researcher continues the assessment by analyzing alternative solutions to the problem using financing analysis (cost analysis). The results of the analysis can be seen in Table 3. The selected solution is increasing the frequency of free treatment and health education by involving factories around the site. This can involve holistic aspects of ARIs management, including promotive, preventive, and rehabilitative efforts.

Table 2 Root cause analysis for ARIs.

No.	Problems	A	B	C	P	E	A	R	L	Total	Priority
1.	Less community common knowledge	10	18	10	1	1	1	1	1	280	I
2.	Smoking behavior and not wearing any protective equipment (mask)	10	20	6	1	1	1	1	1	180	II
3.	No variation in health promotion method	6	6	10	1	1	1	1	1	120	III
4.	No specific programs and budget allocation to prevent ARIs	5	10	4	1	1	1	1	1	60	IV
5.	Lack of cross-sectoral cooperation	6	16	8	1	0	0	0	0	0	-
6.	Burning house wastes and trashes	9	15	6	1	1	0	1	1	0	-
7.	Air pollution caused by smog and dust waste produced by factories operating around RT 41	8	20	4	1	1	1	0	1	0	-

Note: Numbers are calculated using $\frac{(A+B)C}{3} \times D(Pearl\ Factor)$.
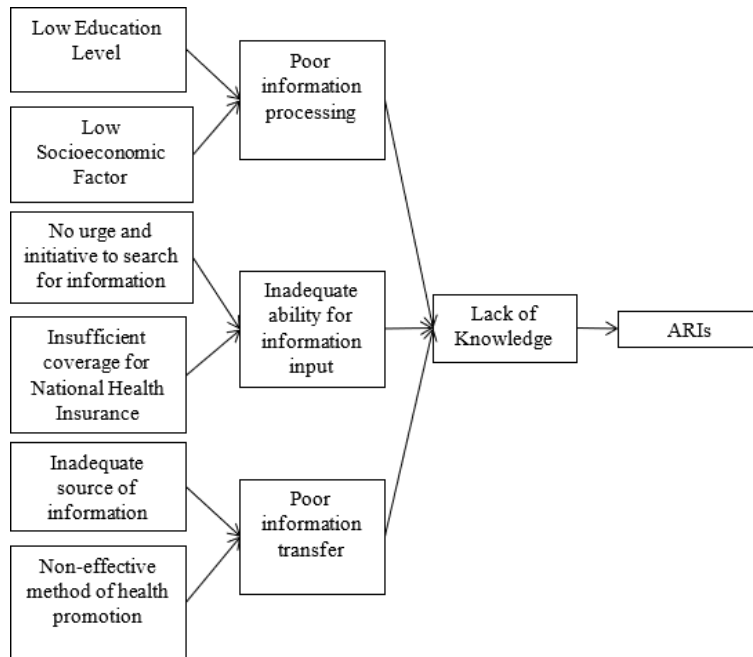
Figure 4 Web of causation for ARIs.

Table 3 Problem-solving alternative analyzed using cost analysis for ARIs.

No.	Problem-solving alternatives	Criteria				Total	Priority
		M	I	V	C	(MxIxV/C)	
1	Increase the frequency of free medical checks and treatment, increase the frequency of health promotion (collaborating with factories around the area)	4	4	5	3	26.7	I
2	Cooperation with stakeholders to provide personal protective equipment	4	2	3	3	8	II
3	*Home visit* to observe home ventilation of houses in RT 41	3	3	3	4	6.75	III
4	New and updated educational video	2	2	2	2	4	IV
5	Selection for ARIs prevention ambassador	2	2	3	4	3	V

Note: M = Magnitude, I = Importance, V = Vulnerability, C = Cost.

3.6.2 Hypertension

The causes of hypertension are illustrated in Table 4. The main causative factor was related to non-routine drug consumption (medication in compliance). This is reportedly caused by patients' mindset of only getting medicated when they felt a complaint, such as a headache. This condition is analyzed using the concept of the web of causation (Figure 5).

The root of the problem could be traced from ten components, broken down into five elements, namely, poor ability to receive information, limited access to health services, lack of information delivery, difficulty in maintaining compliance, and lack of treatment awareness. Based on these conditions, researchers continue the assessment by analyzing alternative solutions to problems using the cost analysis method (Table 5). The chosen alternative solution is the formation of a team to collaborate on blood pressure assessment and medication supervision based on the main obstacle faced in this region (low rate of routine drug consumption).

Table 4 Root cause analysis for hypertension.

No.	Problem	Criteria								Total	Priority
		A	B	C	P	E	A	R	L		
1.	Incompliance with obligatory medications	10	14	6	1	1	1	1	1	144	I
2.	Smoking behavior and unhealthy lifestyle	10	19	4	1	1	1	1	1	116	II
3.	Poor community knowledge	10	10	5	1	1	1	1	1	100	III
4.	Low budget allocation specific to health	5	10	4	1	1	1	1	1	60	IV
5.	Low socio-economic level	10	10	2	1	1	1	1	1	40	V
6.	Inadequate facilities for hypertension screening.	5	12	2	1	0	1	1	1	0	-
7.	Less attention from family members	8	9	8	1	1	1	1	0	0	-
8.	Low motivation	4	8	4	1	1	1	1	0	0	-

Note: Numbers were calculated using $\frac{(A+B)C}{3} \times D (Pearl\ Factor)$.
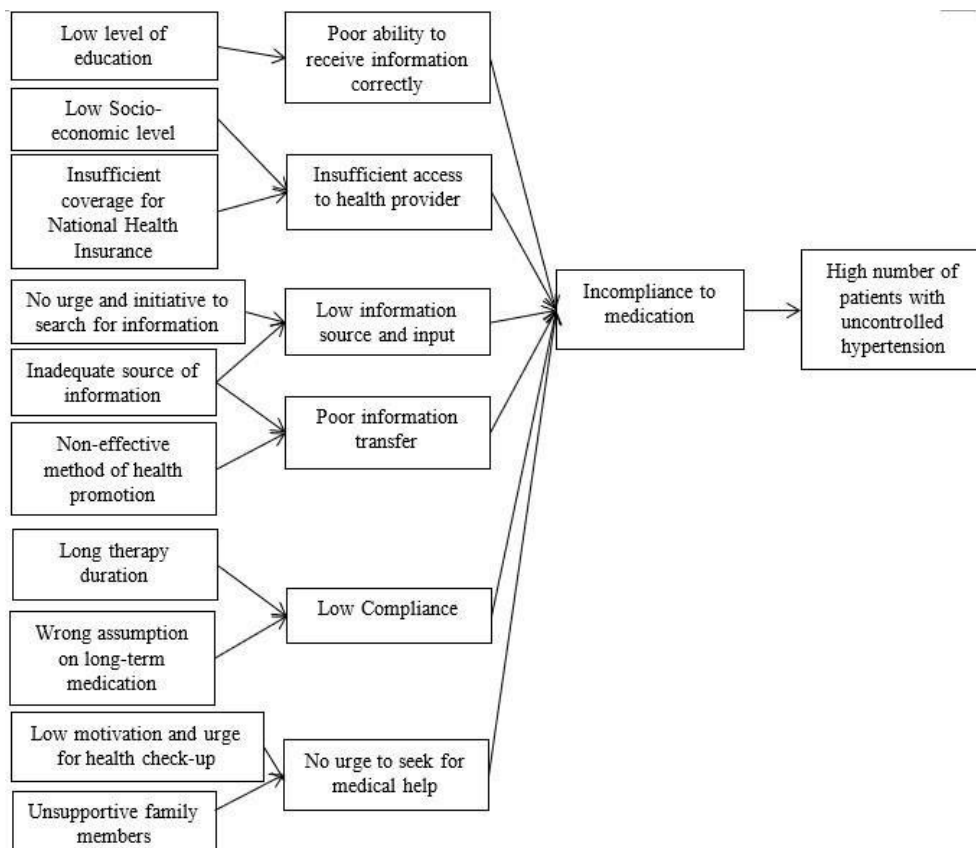
Figure 5 Web of causation for Hypertension.

Table 5 Problem-solving alternatives analysis using cost analysis for hypertension.

No.	Problem-solving alternatives	Criteria				Total	Priority
		M	I	V	C	(MxIxV/C)	
1	Make a team of people (preferably health workers or cadres) to routinely check blood pressures	5	3	3	4	11.25	I
2	Hypertension booth	3	4	3	4	9	II
3	Conduct a cooking competition specifically for patients with hypertensive diets.	2	3	4	3	8	III
4	Weekly aerobic programs	3	3	3	4	6.75	IV
5	Design and produce an educational video	2	2	2	2	4	V

Note: M = Magnitude, I = Importance, V = Vulnerability, C = Cost.

3.6.3 Hyperuricemia

The cause analysis of hyperuricemia is depicted in Table 6. Dietary factors aere the main issue associated with the high incidence of hyperuricemia. The causes of unhealthy (and purine-rich) eating patterns are further elaborated through the concept of the web of causation (Figure 6).

Figure 6 depicts factors that contribute to a lack of hyperuricemia control and incident of hyperuricemia that go undetected due to poor eating habits, particularly those high in purines. It is based on five main elements: a poor ability to obtain information, a limited food selection, inadequate information input, poor information delivery, and an inability to comprehend information. The researchers then evaluated potential problem-solving measures based on cost analysis, as shown in Table 7. Based on the assessment of alternative solutions to this problem using cost analysis, the chosen alternative is to conduct a competition to on preparing a healthy (low-purine) dish. This is in accordance with the causes of the problems associated with eating patterns and can potentially have a broad effect because of mass involvement.

3.7 Evaluation

Following the completion of prior stages, an evaluation of the selected alternatives is carried out. The evaluation process includes process, impact, and outcome evaluation in either short or long terms. The evaluation process is depicted in Table 8.

Table 6 Root-problem analysis for hyperuricemia.

No.	Problems	Criteria								Total	Priority
		A	B	C	P	E	A	R	L		
1.	Unhealthy and unsuitable eating patterns	10	15	7	1	1	1	1	1	175	I
2.	Low compliance on consuming medications	10	16	5	1	1	1	1	1	130	II
3.	Low education level	9	12	6	1	1	1	1	1	126	III
4.	Unsupportive family members	9	11	6	1	1	1	1	1	120	IV
5.	Lack of self-awareness	10	10	6	1	1	1	1	1	120	IV
6.	Lack of screening facilities	2	15	3	1	0	1	1	1	0	-
7.	Low budget allocation for health promotion	4	10	1	1	0	1	1	1	0	-
8.	Low socio-economic level	9	18	1	1	0	1	1	0	0	-

Note: Numbers were calculated using $\frac{(A+B)C}{3} \times D(Pearl\ Factor)$.

Table 7 Problem-solving alternatives analysis using cost analysis for hyperuricemia.

No.	Problem-solving alternatives	Criteria				Total (MxIxV/C)	Priority
		M	I	V	C		
1	Design and produce an educational video.	2	2	2	2	4	V
2	Increase the frequency of physical activities	2	3	3	3	6	IV
3	Conducting a competition on designing a low-purine menu	4	4	3	4	12	I
4	Home visit to evaluate in-house consumption pattern	3	4	4	5	9.6	II
5	Providing leaflets on lists of food items that have low purine level	4	2	3	3	8	III

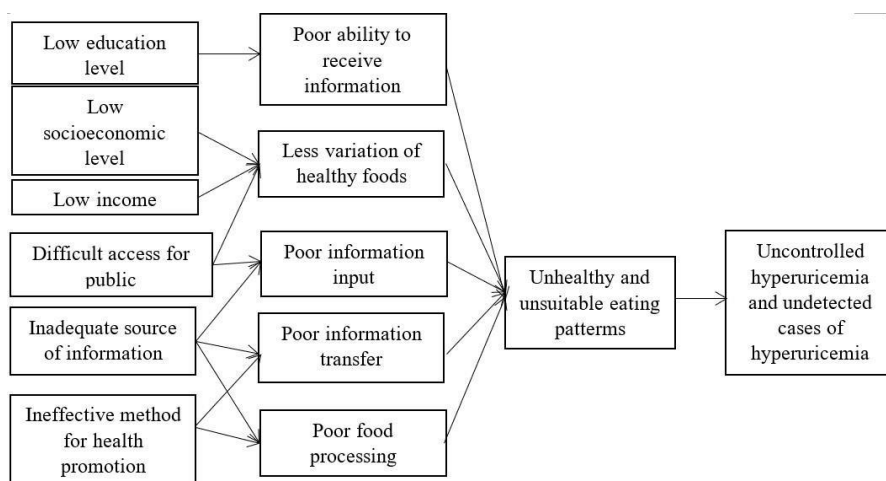Note: M = Magnitude, I = Importance, V = Vulnerability, C = Cost.

Figure 6 Web of causation for hyperuricemia.

4. Discussion

The suburban areas, which were located outside the city center but within the same region as the metropolitan statistical area, were the focus of our research (Schnake-Mahl and Sommers 2017). Low socio-economic situation (which is linked to high-risk jobs) and low levels of education were the most prevalent social problems identified in this area. Furthermore, clean and healthy living behavior (particularly smoking, sedentary lifestyles, and unhealthy diets) is unsatisfactory, as well as low medication use adherence for chronic diseases such as hypertension, diabetes, and hyperuricemia. Poor housing, according to our findings, is also a source of problems, including insufficient ventilation, a lack of sewer systems, and proximity to numerous factories, all of which increase the risk of infectious diseases and air pollution (Fabre and Rodwin 2011; Mehraj et al 2013).

Behavioral and environmental constraints related to health status or quality of life were identified through educational and organizational diagnosis. Some issues can be identified in the three categories of predisposing, enabling, and reinforcing factors based on our findings (Ashoorkhani et al 2018). Low knowledge (only remembering) (Krouska et al 2018) is one of the major obstacles to the predisposing factors. However, the attitude (accepting the researchers' input) and belief (alternative medicine, pediatric immunization) were still permissible. The enabling factors lacked health post availability, the small number of national health insurance members, and limited transportation access. Problems in reinforcing factors entailed stakeholders, family, neighbors, and the individual's lack of support and motivation. The inability to solve issues related to these three factors could have an impact on residents' health behaviors and well-being (Mazloomymahmoodabad et al 2014).

Table 8 Problem-solving alternatives analysis using cost analysis for hyperuricemia.

Workplan	Process Evaluation	Impact evaluation	Outcome Evaluation
Acute Respiratory Infections (ARIs)			
(Short Term) Increasing the frequency of free medication and health education and collaborating with factories around the site.	Every three months	More reachable health access for the residents of RT 41 Sei Selayur. Residents of RT 41 Sei Selayur will get lots more information on adequate ventilation, treatments for ARI, and its complications. People get to understand and try applying activities to prevent ARI.	Decrease in ARI cases (per year). Increased public knowledge (per 3 months).
(Long Term) Collaborating with companies around RT 41 to make "health boxes" around RT 41 environment, the box contains personal protective equipment to prevent ARI, such as masks and hand sanitizers.	Every three months to restock masks and hand sanitizers	A community that has a high awareness of environmental health and is concerned with preventing ARI because of its location (near a lot of factories).	Reduction in cases of ARI (per 2 years). Increased awareness of to use of personal protective equipment (per year).
Hypertension			
(Short Term) Forming a team of Public Health Center workers and health cadres who routinely assess people's blood pressure every month (including supervisors to remind them to take medicines).	Every three months	The community knows and understands the complications of hypertension and develops a culture with controlled or steady normal blood pressure through routine drug consumption.	The dropout rate is reduced (per 3 months). Increased public awareness (per 3 months).
(Long Term) Hypertension booth	All-year	Early diagnosis for high blood pressure through screenings and independently seek for a routine blood pressure check. Increase in community's knowledge on hypertension, how to prevent hypertension, treatments and how to control high blood pressure.	Recorded data for blood pressure (per month). 75% of people's blood pressure is controlled and steady.
Hyperuricemia			
(Short Term) Conducting a competition about arranging a low-purine meal for residents who are diagnosed with hyperuricemia. (Winner will be awarded food stocks that have low purine content).	Every six months	Providing the community with an adequate and healthy diet Residents are educated with diets that suit their hyperuricemia condition	Increased number of patients that did follow-up to health facility about their hyperuricemia (per 6 months). Increased knowledge of the community about dietary restrictions for people with hyperuricemia (per 6 months)
(Long Term) Weekly aerobics that focuses on joint health.	Each month all-year	Increasing knowledge of the community about different joint problems and the right exercise for joint problems. Improving the health of the community by increasing their physical activities.	Recorded data for the number of cases of joint problems (per 3 months). Assessments on residents' physical health (per 3 months).

The previously observed phenomenon (predisposing, enabling, and reinforcing factors) was associated with administrative and policy issues (Porter et al 2018). Our findings revealed that the reluctance to maximize healthcare provision was linked to a lack of funds, personnel (number, workload, and commitment), health post-provision, and stakeholder support, particularly in the chronic disease domain (Mosadeghrad, 2014).

The main health-related problems identified in this study were acute respiratory infections (ARIs), hypertension, and hyperuricemia. The above-mentioned problems have also been identified as the main issues across several Asian nations (Ghimire et al 2013; Li et al 2021; Vaidya et al 2012; Zulaikhah and Sumarawati 2017).

ARIs become the top priority to be solved. The high incidence of ARIs is in line with the data on most diseases found in the working area of the public health center (Zulaikhah and Sumarawati, 2017). The main cause of this problem is related to a lack of knowledge. The level of knowledge based on Bloom's taxonomy is divided into six degrees, namely the ability to remember, understand, apply, analyze, evaluate and create a new knowledge base. All stages must be completed to achieve a behavioral change (Anderson and Krathwohl 2001). In our study, most people only have the lowest level of knowledge (remembering), classified as lower-level analysis (Farmer et al 2021). This is in line with the lack of public awareness to use

personal protective equipment (such as masks) to prevent ARIs due to conditions of the environment that are located very close to pollution sources such as factories and/or a high number of people with smoking habits (Zulaikhah and Sumarawati, 2017).

Based on the previous explanation, knowledge has been identified as the root of the high incidence of ARIs. The web of causation model was applied due to its ability to explain the dynamic changes change in one of the factors, which can change the balance between observed factors, resulting in the increase or decrease in disease development (Broadbent 2009). Three important factors as the mediator of inadequate knowledge were identified, related to the lack of information-capturing, information input, and delivery. This is in line with the concept of health information systems, an intersection between information processes from health service providers and information systems which is collecting data to provide better health services (English et al 2011). The success of this process is associated with cognitive functions, information processing, and communication of information on health practice, health education, and research (Conrick 2006). After the priority causes of the problem are outlined, the final stage includes the process of finding alternative solutions through the method of cost analysis. In analyzing alternative solutions to problems, selected priorities include increasing the frequency of free treatment and health education by cooperating with factories around the site. It is beneficial for promoting self-efficacy, self-management, and awareness in disease prevention (Tunny et al 2020) and in line with the World Health Organization approach from the identification of threats to practical advice (World Health Organization 2006).

The results of the analysis of priority problems found that hypertension becomes the second priority to be tackled. Hypertension has been considered a major problem and a significant contributor to morbidity and mortality in Indonesia (Astutik et al., 2020; Peltzer & Pengpid, 2018) and all over the world(van Kleef and Spiering, 2017). The main cause of hypertension-related concerns is associated with compliance with antihypertensive medication. Low drug use compliance is a severe problem faced by chronic disease sufferers (Nguyen et al 2017; Wiarsih et al 2020). A systematic review has shown that Indonesia has the highest level of non-compliance compared to the findings in 31 other countries, with only 11.8% compliance level (Carvalho and Santos 2019). Difficulty in maintaining adherence is based on various factors such as difficulty in remembering daily medication consumption, the misconception of drug side effects, the complexity of the therapeutic regimen, high treatment costs, difficult access to treatment, and long treatment period (Daniel and Veiga 2013). This is a contributing factor to the poor control of hypertension status in patients, especially in middle to lower-income countries, including Indonesia, which only has 27.1% of patients with controlled hypertension (Bawazir and Sianipar 2019). In addition, bad lipid control in the observed patients was significantly related to our findings (all patients with hypertension have uncontrolled blood pressure) (Umar and Mariana 2021).

In our study, non-routine hypertensive prescription consumption resulted in uncontrolled blood pressure. Information (poor receiving ability, input, and delivery method), limited access to healthcare facilities, difficulty sustaining compliance, and a lack of medical consciousness are all factors that contribute to the problem. This is consistent with widely recognized aspects related to drug use adherence, such as socio-economic, demographic, concomitant medical-behavioral conditions, modes of therapy application, doctor-patient relationships, health system impact, and individual patient factors (Burnier and Egan 2018). In our study populations, forming a collaborative team for blood pressure evaluation and medication supervision was considered as the most suitable alternative. It is a considerable tool for controlling blood pressure and ensuring patient medication adherence. The interaction of these factors has been shown to substantially impact hypertensive patients' blood pressure control (Akoko et al 2017).

Hyperuricemia is the third priority to be resolved in our study. This disorder received increasing attention as a major public health problem (Ni et al 2019) due to its association with numerous metabolic disorders (Chen et al 2007; Usman et al 2019; Wang et al 2018). Based on the root cause analysis, a poor diet was identified as the primary contributor to the high prevalence of hyperuricemia. Various factors influence diet, including knowledge of proper nutrition, processing capability, food awareness, social support, food availability, and grocery bills. Individual, ecological, and social factors are the three categories in which these factors are classified (Kabir et al 2017). Intake of fish and shellfish, according to a study, affects an increase in uric acid levels (Villegas et al 2012). The findings agree with the population's lower-middle socio-economic status, as saltwater fish is the most common source of animal protein, while other sources are unavailable due to cost constraints (Wake and Geleto 2019). Establishing a healthy menu preparation (low-purine dishes) for patients with hyperuricemia is the preferred priority in assessing problem-solving potentials. Because food (especially with purine-rich content) is the most common source of uric acid production, this initiative would be beneficial in reducing the risk of complications (Aihemaitijiang et al 2020). On the other hand, the application of a healthy diet was not limited to purine limitations but also included calorie, fat, animal protein, and salt restrictions (Zhang et al 2016).

Our study has several limitations. Due to the cross-sectional design of this study, respondents were asked to remember past events, which could lead to recall bias. Our study's low sample size has also become a limitation. Meanwhile, our study's strength came from the use of primary data collection, which allowed us to assess any information and ask for clarification directly.

5. Conclusions

Based on the community diagnosis using Lawrence Green's theory (PRECEDE-PROCEED), acute respiratory infections were the highest form of health problem in the studied region, followed by hypertension and hyperuricemia. Level of knowledge is the most significant determinant for the development of these disorders. Thus, the proposed intervention on the enhancement of health education within the community is very essential as a problem-solving alternative. Lawrence Green's theory implementation can significantly assess problems in society by employing a broader context of human life during the diagnosis process.

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Conflict of Interest

The authors declare no conflicts of interest.

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