MODEL OF HEALTH-PROMOTING COMMUNITY HEALTH CENTER IN THE ISLANDS TO SUPPORT HEALTHY CITIES IN SOUTH SULAWESI PROVINCE

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ABSTRACT

Purpose: This study aims to find a model of Health-Promoting Puskesmas in the archipelago in supporting healthy cities in South Sulawesi Province.

Theoretical Reference: Some healthy setting thinkers believe that the healthy cities approach as a tool in solving regional health problems is seen as a too broad concept. The Healthy Islands Concept (HIC) is one of the initiatives which has elemental settings to promote health in island people and communities. Healthy Island refers to island settings, one of which is the Community Health Center (Puskesmas). Realizing Health-Promoting Hospitals has become a global movement. Otherwise, realizing Health-Promoting Puskesmas which has a different position and roles and responsibilities in improving health has raised difficulties. Moreover, health problems in Puskesmas in urban areas can be different from Puskesmas on the island.

Methods: This study uses quantitative analysis. There were 700 respondents selected as sample. They were the community that go to the Puskesmas or those in the working area of the Puskesmas. The research locations are in 3 archipelagic regencies/cities, namely islands in Makassar City, Pangkajene Islands Regency, and Selayar Islands Regency. The data were analyzed quantitatively using Confirmatory Factor Analysis (CFA) and then analyzed using Structural Equation Modeling/SEM.

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Results and Conclusion: Based on the data collection, it was found that there are 7 dimensions with 28 indicators that can form a model of a health-promoting Puskesmas in the islands. Further, the dimension that has the strongest contribution in establishing the model of a health center in islands is the work group dimension of healthy puskesmas with an average loading factor value for each indicator of > 9 so that it can be illustrated that these indicators are stronger than other indicators existing in other dimensions of the Puskesmas models in the islands. A Puskesmas model that is suitable for archipelagic areas has implications for efforts to prevent and improve health, as well as provide quality health services.

Implication of Research: Thus, this Puskesmas model can improve the health status of the island community.

Originality: The results of this research are expected to be input for the Ministry of Health, the Health Service, Provincial and district/city Governments, and also for society as a whole in realizing a Health-Promoting Puskesmas.

Keywords: models, public health center, healthy cities, island, promotion.

MODELO DE CENTRO DE SAÚDE COMUNITÁRIO PROMOTOR DE SAÚDE NAS ILHAS PARA APOIAR CIDADES SAUDÁVEIS NA PROVÍNCIA DE SULAWESI DO SUL

RESUMO

Objetivo: Este estudo tem como objetivo encontrar um modelo de Puskesmas promotores da saúde no arquipélago, apoiando cidades saudáveis na província de Sulawesi do Sul.

Referência teórica: Alguns pensadores de cenário saudável acreditam que a abordagem de cidades saudáveis como uma ferramenta na resolução de problemas de saúde regionais é visto como um conceito muito amplo. O Healthy Islands Concept (HIC) é uma das iniciativas que tem configurações básicas para promover a saúde em pessoas e comunidades insulares. Ilha Saudável refere-se a ambientes insulares, um dos quais é o Centro de Saúde Comunitário (Puskesmas). Realizar Hospitais de Promoção da Saúde tornou-se um movimento global. Caso contrário, a realização de Puskesmas de Promoção da Saúde, que tem uma posição e papéis e responsabilidades diferentes na melhoria da saúde, tem levantado dificuldades. Além disso, os problemas de saúde em Puskesmas em áreas urbanas podem ser diferentes dos Puskesmas na ilha.

Métodos: Este estudo utiliza análise quantitativa. Foram selecionados 700 respondentes como amostra. Eles eram a comunidade que ia aos Puskesmas ou aqueles na área de trabalho dos Puskesmas. Os locais de pesquisa estão em 3 regências/cidades arquipelágicas, ou seja, ilhas na Cidade de Makassar, Regência das Ilhas Pangkajene e Regência das Ilhas Selayar. Os dados foram analisados quantitativamente usando Análise de Fator de Confirmação (CFA) e, em seguida, analisados usando Modelagem de Equação Estrutural (SEM).

Resultados e Conclusão: Com base na coleta de dados, constatou-se que existem 7 dimensões com 28 indicadores que podem formar um modelo de Puskesmas promotores de saúde nas ilhas. Além disso, a dimensão que tem o maior contributo para o estabelecimento do modelo de um centro de saúde nas ilhas é a dimensão do grupo de trabalho de puskesmas saudáveis com um valor médio do fator de carga para cada indicador de > 9, de modo que pode ser ilustrado que estes indicadores são mais fortes do que outros indicadores existentes noutras dimensões dos modelos de Puskesmas nas ilhas. Um modelo de Puskesmas adequado para áreas arquipelágicas
tem implicações nos esforços para prevenir e melhorar a saúde, bem como fornecer serviços de saúde de qualidade.

**Implicação da Pesquisa:** Assim, este modelo de Puskesmas pode melhorar o estado de saúde da comunidade insular.

**Originalidade:** Os resultados desta pesquisa deverão ser utilizados para o Ministério da Saúde, o Serviço de Saúde, os Governos Provinciais e distritais/municipais, e também para a sociedade como um todo na realização de um Puskesmas de Promoção da Saúde.

**Palavras-chave:** modelos, centro de saúde pública, cidades saudáveis, ilha, promoção.

**1 INTRODUCTION**

Healthy cities as a global setting were introduced by WHO in the 1980s as an effort to address various urban health problems (Sharma and Nam 2017). In Indonesia, healthy cities are interpreted as healthy districts/cities and have been officially regulated after the publication of a Joint Regulation between the Ministry of Home Affairs and the Ministry of Health of the Republic of Indonesia (Palutturi et al. 2015; Sukri Palutturi et al. 2015). Healthy Cities are very complex, so to make it happen, they can be developed through micro settings such as Public Health Centers (Anon 2013; WHO 2018).

Realizing Health-Promoting Hospitals has become a global movement. Many countries have developed this concept since 1988, especially in European countries, and now it has begun to develop in continents and other countries (Pelican, J. M, 2022). Yet, that does not happen at Public Health Center (Puskesmas). Puskesmas have different positions, roles, and responsibilities in improving health compared to hospitals and other health facilities (Palutturi et al. 2017). Moreover, health problems in Puskesmas in urban areas can be different from Puskesmas those in the islands. In Indonesia, the Puskesmas is the main foundation for providing health services at the first point of contact. The Puskesmas is the technical implementation unit of the District/City Health Office which is responsible for community health efforts, consisting of public health activities for the population within their working area ea (Ministry of Health, 2005). Puskesmas is an organizational unit engaged in the field of health services at the forefront and has a mission as a health service development center, which carries out comprehensive and integrated health guidance and services for the community in a certain work area that has been given the authority independently in determining services activities except for their financing aspects (Saputra, 2022).
This study aimed to find the indicators and dimensions that form the model of island health-promoting Puskesmas and find the health-promoting Puskesmas model in the island area in supporting healthy cities in South Sulawesi Province. The Puskesmas model encompassed dimensions of location, access, basic service programs, specific programs (innovations), human resources, community empowerment, and workgroup for healthy community health centers.

2 THEORETICAL FRAMEWORK

In creating a healthy health center in the islands, there are eight important aspects to be implemented, namely: (1) Location; (2) Access; (3) Basic service program; (4) specific program (innovation); (5) Human Resources (HR); (6) Community Empowerment; (7) Healthy Health Center Work Group (Pokja PKM Sehat); and (8) Islands Healthy Health Center. Among these eight aspects, the healthy health center work group (Pokja PKM Sehat) has the greatest contribution in building the island health center model.

In every organization there are always groups, both formal and informal, such as work groups, trade unions and informal groups that are formed because of similar hobbies. The existence of this work group is part of organizational life. The work group is a small organization which becomes a part of a larger organization. The existence of work groups is indeed needed by the organization in order to achieve larger organizational goals. Groups in the organization usually exist because of the need to complete tasks, or resolve problems together. Some problems in the organization cannot only be solved individually. Therefore, consciously or unconsciously each individual in the organization tries to participate in forming groups. An effective group is reflected in the interaction between its members, which shows the following characteristics: there is solidarity between members; mutual assistance and filling; there is members participation; there is satisfaction feeling shown, most decisions are reached by consensus so that each member can participate, accept and approve the decisions; members listen to each other and there is openness (not a lot of being secretive or shy); constructive criticism is often done openly and there is only slightly criticizes/attacks privately either openly or hidden.
3 MATERIALS AND METHOD

This study uses quantitative analysis. There were 700 respondents selected as sample. They were the community that go to the Puskesmas or those in the working area of the Puskesmas. The sample was taken based on the number of heads of households in the target health center area and the sampling technique used was simple random sampling (Chu, PH., and Chang 2017; Creswell 1990). The research locations are in 3 archipelagic regencies/cities, namely islands in Makassar City, Pangkajene Islands Regency, and Selayar Islands Regency. The data were analyzed quantitatively using Confirmatory Factor Analysis (CFA) and then using a structural equation model (Structural Equation Modeling/SEM) (Purwanto, Asbari, and Santoso 2021)

4 RESULTS

The results of the Confirmatory Factor Analysis (CFA) for each indicator which builds the dimensions of location, access, basic service programs, specific programs (innovations), human resources, community empowerment, work group for healthy community health center and island healthy community health center, can be seen as follows.

a. Location

The following are the results of the location dimension analysis and its constituent indicators.

<table>
<thead>
<tr>
<th>No</th>
<th>Locations (LO)</th>
<th>ρ</th>
<th>Loading Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regional accountability (LO1)</td>
<td>0.001</td>
<td>0.759</td>
</tr>
<tr>
<td>2</td>
<td>Cleanliness (LO2)</td>
<td>0.001</td>
<td>0.239</td>
</tr>
<tr>
<td>3</td>
<td>Comfort (LO3)</td>
<td>0.001</td>
<td>0.848</td>
</tr>
<tr>
<td>4</td>
<td>Security (LO4)</td>
<td>0.001</td>
<td>0.548</td>
</tr>
</tbody>
</table>

Source: Prepared by the Author (2023)

Based on Table 1, it can be seen that all four indicators can form the location dimension. Moreover, the LO3 indicator becomes an indicator that contributes the most in forming location dimensions with a loading factor value of 0.848. Whereas, the LO2 indicator cannot be used in forming location dimensions because it has a loading factor value of only 0.239. Although an indicator has a significant value, this indicator cannot be used in forming dimension because its loading factor is less than 0.4. The path diagram of the results of this analysis can be seen in the following figure.
b. Access

Following are the results of the Access dimension analysis and its constituent indicators:

<table>
<thead>
<tr>
<th>No</th>
<th>Access (AK)</th>
<th>( \rho )</th>
<th>Loading Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Accessibility (AC1)</td>
<td>0.001</td>
<td>0.446</td>
</tr>
<tr>
<td>2</td>
<td>Accommodation (AC2)</td>
<td>0.001</td>
<td>0.614</td>
</tr>
<tr>
<td>3</td>
<td>Affordability (AC3)</td>
<td>0.001</td>
<td>0.823</td>
</tr>
<tr>
<td>4</td>
<td>Acceptability (AC4)</td>
<td>0.001</td>
<td>0.730</td>
</tr>
</tbody>
</table>

Based on Table 2, it can be seen that the four indicators on the access dimension have significant value \( (p < 0.05) \), where the AK3 indicator is the indicator that makes the biggest contribution to forming the location dimension with a loading factor value of 0.823. The path diagram on the access dimension can be seen in the following figure.

Figure 2. Path Diagram of Access Dimension

Source: Prepared by the Author (2023)
c. Basic Service Program

Following are the results of the basic service program dimension analysis along with its constituent indicators.

Table 3: Forming Indicators of Basic Service Program Dimensions in the Island Healthy Community Health Center Model

<table>
<thead>
<tr>
<th>No</th>
<th>Basic Service Program (BSP)</th>
<th>ρ</th>
<th>Loading Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Promotion of Primary Health Care (BSP1)</td>
<td>0.001</td>
<td>0.282</td>
</tr>
<tr>
<td>2</td>
<td>Environmental Health (BSP2)</td>
<td>0.001</td>
<td>0.229</td>
</tr>
<tr>
<td>3</td>
<td>Communicable and Non-Communicable Disease Prevention and Control (BSP3)</td>
<td>0.001</td>
<td>0.914</td>
</tr>
<tr>
<td>4</td>
<td>Reproductive and Family Health (BSP4)</td>
<td>0.001</td>
<td>0.681</td>
</tr>
<tr>
<td>5</td>
<td>Community Nutrition Improvement (BSP5)</td>
<td>0.001</td>
<td>0.748</td>
</tr>
<tr>
<td>6</td>
<td>Disease Healing and Care and Health Services (BSP6)</td>
<td>0.001</td>
<td>0.779</td>
</tr>
</tbody>
</table>

Source: Prepared by the Author (2023)

Based on Table 3, it can be reported that of the six indicators that form the basic service program dimensions, only four indicators can build this dimension, in which the LD indicator becomes the indicator that contributes the most in forming the Basic Service Program dimension with a loading factor value of 0.914. Meanwhile, the LD1 and LD2 indicators cannot be used in forming the basic service program dimensions because they have a loading factor value of only 0.282 and 0.229 respectively. Although these indicators have a significant value, this indicator cannot be used in forming dimension because their loading factor is less than 0.4. The path diagram of the results of this analysis can be seen in the following figure.

Figure 3. Path Diagram of Basic Service Program Dimension

Source: Prepared by the Author (2023)
d. **Specific Program (Innovation)**

Following are the results of the specific program dimensions (innovation) analysis along with the constituent indicators.

<table>
<thead>
<tr>
<th>No</th>
<th>Specific Program/ Innovation (PS)</th>
<th>$\rho$</th>
<th>Loading Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Local cultural values (SP1)</td>
<td>0.001</td>
<td>0.590</td>
</tr>
<tr>
<td>2</td>
<td>Counseling (SP2)</td>
<td>0.001</td>
<td>0.656</td>
</tr>
<tr>
<td>3</td>
<td>Scheme of health services development (SP3)</td>
<td>0.001</td>
<td>0.704</td>
</tr>
</tbody>
</table>

Source: Prepared by the Author (2023)

Table 4 shows that the three indicators on the specific program dimension (innovation) have significant value ($p < 0.05$), where the PS3 indicator is the indicator that makes the greatest contribution in forming the specific program dimension (innovation) with a loading factor value of 0.704. The path diagram on the access dimension can be seen in the following figure.

![Path Diagram of Specific Program Dimensions (Innovation)](source: Prepared by the Author (2023))

**e. Human Resources (HR)**

The following is the result of the human resource dimension analysis and its constituent indicators.
Table 5: Forming Indicators of Human Resources in the Island Healthy Health Center Model

<table>
<thead>
<tr>
<th>No</th>
<th>Human Resources (HR)</th>
<th>( \rho )</th>
<th>Loading Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Availability of Health Workers/Fulfillment of Health workers at island level/Area (SM1)</td>
<td>Unidentified</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Health workers management (SM2)</td>
<td>Unidentified</td>
<td></td>
</tr>
</tbody>
</table>

Source: Prepared by the Author (2023)

Based on Table 5, it is known that in terms of the human resource dimension, the two indicators cannot contribute in building the human resource dimension so that overall, the dimensions and indicators on human resources cannot be used in the formation of a model of an archipelago healthy health center.

**f. Community Empowerment**

Table 6: Forming Indicators of Community Empowerment Dimensions in the Islands Healthy Health Center Model

<table>
<thead>
<tr>
<th>No</th>
<th>Community Empowerment (PM)</th>
<th>( \rho )</th>
<th>Loading Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Community independence (CE1)</td>
<td>0.001</td>
<td>0.769</td>
</tr>
<tr>
<td>2</td>
<td>Community activeness (CE2)</td>
<td>0.001</td>
<td>0.857</td>
</tr>
<tr>
<td>3</td>
<td>Integration (CE3)</td>
<td>0.001</td>
<td>0.697</td>
</tr>
<tr>
<td>4</td>
<td>Continuity (CE4)</td>
<td>0.001</td>
<td>0.760</td>
</tr>
</tbody>
</table>

Source: Prepared by the Author (2023)

Based on Table 6, it can be seen that the four indicators on the community empowerment dimension are significant \((p < 0.05)\), where the PM2 indicator is the indicator that makes the greatest contribution in shaping the community empowerment dimension with a loading factor value of 0.857. The path diagram on the access dimension can be seen in the following figure.

Figure 5. Path Diagram of Community Empowerment Dimension

Source: Prepared by the Author (2023)

**g. Healthy Health Center Work Group (Pokja PKM Sehat)**
Based on Table 7, it can be seen that the four indicators on the work group dimension are significant ($p < 0.05$), in which the KK2 indicator becomes the indicator that contributes the most to forming the work group dimension with a loading factor value of 0.979. The path diagram on the access dimension can be seen in the following figure.

Figure 6. Path Diagram of Work Group Dimension

Source: Prepared by the Author (2023)

Based on Table 8, it can be seen that the four indicators on the dimensions of the islands healthy health center are significant ($p < 0.05$), where the PSK3 indicator is the indicator that makes the greatest contribution to shaping the community empowerment.
dimension with a loading factor value of 0.914. The path diagram on the access dimension can be seen in the following figure.

Figure 7. Path Diagram of Islands Healthy Health Centers Dimension

![Path Diagram of Islands Healthy Health Centers Dimension](image)

Source: Prepared by the Author (2023)

**B. Model of Healthy Community Health Centers in Islands Areas**

Based on the following diagram of the island healthy health center model, it can be seen that there are seven dimensions which build the island health center model and the work group dimension is the dimension that has the strongest contribution to this island health center model. It also can be seen of all the indicators that make up the dimension, working group dimension have a high loading factor value compared to other indicators that make up the other dimensions in this model.
5 DISCUSSION

The function of this work group can be viewed from the group members perceptions and the organization's leadership point of view. A work group is considered good if it gives meaning to its members, that is, when members feel the work group can meet the members' needs and expectations. A group member will think of resigning as a group member, if he believes the group is unsatisfactory, unable to meet his needs and expectations. A work group is considered good by the organization leadership if the leaders of the work group are able to work together, are able to meet the needs and expectations and each group can carry out its functions in such a way that the goals can be achieved and the mission realized. If the work group is considered to be not good enough in carrying out its functional duties, efforts will be made to improve it.
In order to accommodate the requirement aspects in realizing healthy promoting *puskesmas* in archipelagic areas. It is also important to form a working group for healthy promoting *puskesmas* which is a representative of each element that is considered capable of playing a role in the realization of an archipelagic healthy *puskesmas*. Furthermore, it is hoped that the workgroup of healthy promoting *puskesmas* in the island areas is able to carry out activities to empower island communities and carry out routine internal monitoring (Of et al. 2021; Tamti, Ratnawati, and Anwar 2014). Internal supervision is carried out through periodic monitoring to assess the condition of the island's healthy health centers as well as the people behavior in the archipelago (Laksono, Sillehu, and Megatsari 2021).

So that in its formation, based on research results, the *puskesmas* work group must have an organizational structure that includes clear tasks and functions and programs, a structured work plan and a clear monitoring and evaluation plan, and a clear amount and budget sources. It is hoped that the existence of the work group for the health center can support the dimensions and other indicators that make up the island-based health center model.

6 CONCLUSION

The results of this study found that there are 7 dimensions that can form a model of an island healthy health center, which consists of the dimensions of location, access, basic service programs, specific programs (innovation), human resources, community empowerment, health center work groups and dimensions of island healthy health center. This model of the healthy *puskesmas* in the island was found with the indicators that had the greatest contribution, namely in the work group dimension of the healthy *puskesmas*. A Puskesmas model that is suitable for archipelagic areas has implications for efforts to prevent and improve health, as well as provide quality health services. Thus, this Puskesmas model can improve the health status of the island community. The results of this research are expected to provide input for the Ministry of Health, the Health Office, Provincial and district/city Governments and also for society as a whole in realizing Healthy Health Centers, especially in island areas, whose context is different from other Community Health Centers.
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Anon. 2013. “Healthy Cities Implementation in Indonesia ;”


