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Tuberculosis Treatment as the First Priority Indicator of Public Health in the Healthy Indonesia Program with a Family Approach

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Abstract

Public health care is part of the "Healthy Indonesia Program with a Family Approach", which consists of 5 indicators, namely treatment of pulmonary tuberculosis sufferers according to standards, regular treatment of hypertension sufferers, treatment and not neglecting sufferers of mental disorders, absence of family members who smoke, and family membership in national health insurance. This study aimed to select maternal and child health indicators based on priority using the difficulty-usefulness pyramid (DUP). The respondents of this study were 329 families in Indonesia selected using the snowball sampling technique. The difficulty and usefulness of the five indicators were measured using an online questionnaire, then analyzed and presented in the form of a difficulty-usefulness pyramid. The results of the analysis showed that the range based on the total difficulty-usefulness for each indicator was 1) treatment of pulmonary tuberculosis sufferers according to standards = 17.21; 2) regular treatment of hypertension sufferers = 17.00; 3) treatment and not neglecting sufferers of mental disorders = 16.53; 4) absence of family members who smoke = 16.37; and 5) family membership in national health insurance = 15.46. After the range was sorted, the largest range was at the base of the pyramid. It could be concluded that the indicator of public health care that was prioritized was the treatment of pulmonary tuberculosis sufferers according to standards.

Keywords: *Difficulty-Usefulness Pyramid, Indicators, Priority, Public Health Care.*

Introduction

Implicitly, the Healthy Indonesia Program with a Family Approach consists of public health care, environmental health and maternal and child health [1-3]. Health centres use a family approach to increase the reach of targets and access to health services, by visiting families as a form of public health service [4].

Public health care is measured by 5 indicators, namely treatment of pulmonary tuberculosis sufferers according to standards, regular treatment of hypertension sufferers, treatment and not neglecting sufferers of mental disorders, absence of family members who smoke, and family membership in national health insurance. Based on these indicators, the healthy family index for public health care can be calculated. The achievement of each indicator describes the health conditions of family members in the working area of the related health centre [5].

The heavy burden of the government budget has forced the government to refocus the budget, making it impossible to increase the achievement of all indicators simultaneously, so that indicators that are the main priority must be selected. So far, efforts to increase the achievement of healthy family indicators have been based on the achievement of each indicator, which means that indicators with low

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achievement are prioritized for improvement. Often the cause of the low achievement of indicators is not known, so efforts to improve achievement become less focused.

To increase the achievement of indicators, it is best to first know the family's perception of each related indicator. In this regard, there are two specific beliefs based on family perceptions that can be used as a basis for improving indicator achievement, namely: 1) perceived usefulness, and 2) perceived difficulty. These two types of perceptions can be used as a basis for selecting public health care indicators that are the main priority. In this regard, the Difficulty-Usefulness Pyramid (DUP) is one method that can be used. DUP can be used as a comparative method while facilitating the selection of resolution strategies based on family perceptions so that problem-solving becomes more focused [6-11].

Based on the background above, research is needed that aims to select the main priority indicators of public health care using the DUP method.

Materials and Methods

This study was conducted online with the target population being all families in Indonesia who can access the internet. The sample size was 329 families selected using the snowball sampling technique. The researcher applied a quantitative approach with a descriptive method, to select the public health care indicators that were the main priority. The approach used to rank the 5 indicators from the first to the last priority was the difficulty-usefulness pyramid (DUP) [6-11]. The five indicators were: 1) treatment of pulmonary tuberculosis sufferers according to standards, 2) regular treatment of hypertension sufferers, 3) treatment and not neglecting sufferers of mental disorders, 4) absence of family members who smoke, and 5) family membership in national health insurance [5].

There were 2 variables used as the basis for determining the priority order of the indicators, namely the level of difficulty in achieving the indicators by the family and the usefulness of the indicators perceived by the family [2]. Both variables were measured by filling out a questionnaire containing 5 public health care indicators, which were distributed online to respondents in the form of a Google form. The collected data were analyzed descriptively and then presented in the form of a Difficulty-Usefulness Pyramid. Difficulty is at the negative pole (left), while usefulness is at the positive pole (right). In the pyramid, the indicator at the base was the priority, and the indicator at the top was the last priority.

Results

The results of the analysis showed that the usefulness scores of each indicator tend to be homogeneous, with an average score of 9.34 (close to 10), meaning that all indicators were perceived as very useful by families. The difficulty score also tends to be homogeneous with an average score of 7.18, so all indicators were perceived as still difficult to be realized by families. The indicator with the largest range became the base and the smallest range became the top of the pyramid. The order of indicators based on priority was: 1) treatment of pulmonary tuberculosis sufferers according to standards = 17.21; 2) regular treatment of hypertension sufferers = 17.00; 3) treatment and not neglecting sufferers of mental disorders = 16.53; 4) absence of family members who smoke = 16.37; and 5) family membership in national health insurance = 15.46 (Table 1).

Table 1. The mean score and range of difficulty and usefulnes of each indicator

Indicators	Difficulty	Usefulness	Range
Treatment of pulmonary tuberculosis sufferers according to standards	7.74	9.47	17.21
Regular treatment of hypertension sufferers	7.61	9.39	17.00
Treatment and not neglecting sufferers of mental disorders	7.29	9.24	16.53
Absence of family members who smoke	7.07	9.30	16.37
Family membership in national health insurance	6.17	9.29	15.46
Average	7.18	9.34	

The Difficulty-Usefulness Pyramid was built based on the range of each indicator, starting from the difficulty score to the usefulness (Figure 1). Thus, it could be interpreted that the public health care indicator that was the main priority was the treatment of pulmonary tuberculosis sufferers according to standards.

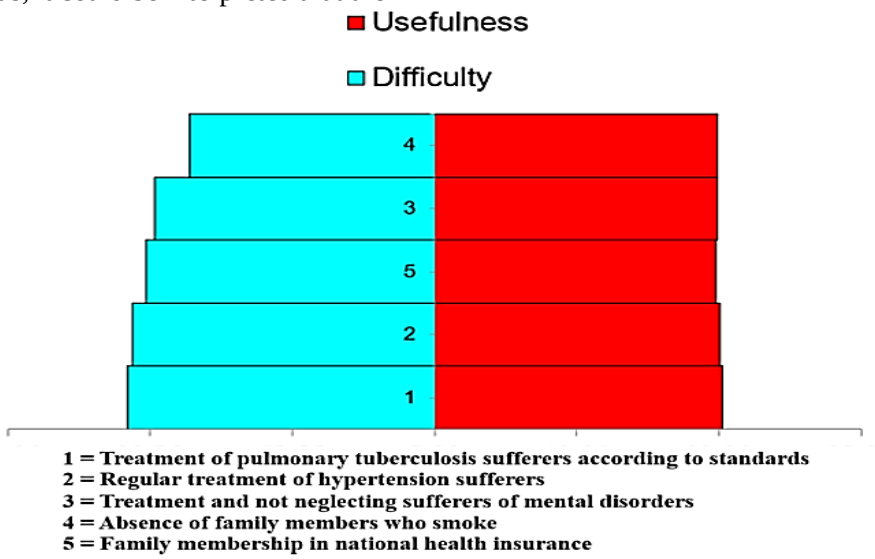

Figure 1. The Arrangement of Indicators of Public Health Care According to the Order of Priority Based on the Difficulty-Usefulness Pyramid

Discussion

Understanding family perceptions regarding each public health care indicator is very important. Understanding family perceptions can be used as a basis for mapping better management strategies to improve the achievement of all related indicators. DIFFICULTY and USEFULNESS are individual and family beliefs that can be used as a basis for measuring family perceptions of each public health care indicator. DIFFICULTY is the condition of the extent to which efforts must be made by families to achieve public health care indicators. Meanwhile, USEFULNESS is the condition of the extent to which public health care indicators are felt to be useful for families [2].

According to the Difficulty-Usefulness Pyramid method, DIFFICULTY and USEFULNESS are used to select elements or

indicators of various systems based on priority order, including in this case the public health care indicator which is part of the Healthy Indonesia Program with a Family Approach. Based on the level of DIFFICULTY, the priority is the indicator that is most difficult to achieve; while based on the level of USEFULNESS, the priority is the indicator that is most felt to be useful. By combining these two variables, the priority is the element or indicator with the highest level of difficulty and usefulness. In the Difficulty-Usefulness Pyramid, DIFFICULTY and USEFULNESS are measured on a numeric scale, so that the priority order of indicators can be determined based on the total score of the level of difficulty and usefulness for each indicator of public health care [2].

The results of this study indicate that the five indicators of public health care have a very high usefulness score, meaning that all indicators of public health care are felt to be very useful for families. This condition is very encouraging because it can be seen that empirically, the community has positive beliefs about all indicators of public health care initiated by the Indonesian government. Meanwhile, the five indicators of public health care have a lower difficulty score than the level of usefulness but are still relatively high. Thus, empirically it appears that all indicators of public health care are still felt to be difficult to realize by the community. This condition should be an important note for the government because, with the still high level of difficulty, this is one of the obstacles to achieving the success of the Healthy Indonesia Program with a Family Approach.

The results of this study indicate that the indicator that is the priority of public health care is the treatment of pulmonary tuberculosis sufferers according to standards. This is very reasonable because until now tuberculosis control in Indonesia is still a major challenge [12-17]. Factors that influence the high rate of tuberculosis in Indonesia include: 1) increasing tuberculosis-HIV co-infection, complicating the treatment and control of tuberculosis; 2) increasing cases of Multi-Drug Resistance Tuberculosis (TB MDR) making treatment more difficult and taking longer; 3) weak management of tuberculosis control programs and suboptimal continuity of financing; 4) a limited number of health facilities that can identify tuberculosis, so the government must add and equip them with facilities and infrastructure that support the identification and treatment process; 5) limited laboratory-based surveillance to improve detection and treatment of tuberculosis [17-23].

The key to the strength of this study lies in the method used to rank the indicators based on priority. This method is still relatively new, considering the balance of measurements for each indicator measured and can be applied very easily. In this case, measurements of the difficulty level and usefulness attributes are carried out for each indicator, and then the measurement results of the two attributes are combined. Furthermore, the combined score is compared between one indicator and another. With this method, researchers or managers can ensure that the consideration of the ranking of the indicators has high accuracy. However, this study also has limitations, namely the relatively small sample size for the family population in Indonesia. In fact, as a descriptive study, sample size is not an absolute requirement, but if the sample size is enlarged, then of course the accuracy of the analysis results can be increased. Thus, the online data collection process should be continued, so that the research results can be updated continuously. In this way, the accuracy of the research results is increasingly convincing.

Conclusion

Based on the results of the study it can be concluded that the indicator of public health care as the main priority is the treatment of pulmonary tuberculosis sufferers according to standards.

Conflict of Interest

There is no conflict of interest related to this research and publication

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References

[1]. Maryani, H., Rizkianti, A., Izza, N., 2024, Classification of healthy family indicators in indonesia based on a K-means cluster analysis. *J Prev Med Public Health*, 57(3), 234-241.

[2]. Hardjito, K., Rahmaningtyas, I., Nugroho, H. S. W., 2023, Selection of prioritized healthy family indicators, using the difficulty-usefulness pyramid (DUP). *Rawal Medical Journal*, 48(1), 168-172.

[3]. Bisri, M., Handoko, R., Darmawan, A., 2023, Implementation of the healthy indonesia program with a family approach (PIS-PK) at community health centers in Bintan District, Kepulauan Riau Province. *International Journal of Social Science*, 2(6), 2423-2428.

[4]. Saloner, B., Wilk, A. S., Levin, J., 2020, Community health centers and access to care among underserved populations: A synthesis review. *Med Care Res Rev*, 77(1), 3-18.

[5]. Trisna, N., 2021, Implementation of a healthy indonesian programs with a family approach (PIS-PK) (Study at Puskesmas Seluma Timur). *International Journal of Policy and Public Administration*, 2(1), 26-36.

[6]. Nugroho, H. S. W., Sillehu. S., Handoyo, Suparji, Sunarto, Subagyo, Sunarko, B., Bahtiar, 2018, Difficultness-Usefulness Pyramid (DUP) as new method to select elements prioritized in management of e-learning in health. *Indian Journal of Public Health Research and Development*, 9(2), 206-211.

[7]. Nugroho, H. S. W., Handoyo, Prayitno, H., Budiono, A., 2019, Sort elements based on priority, in order to improve the quality of e-learning in health using Difficulty-Usefulness Pyramid with Weighting (DUP-We). *International Journal of Emerging Technologies in Learning (iJET)*, 14(18), 186-193.

[8]. Ibrahim, I., Sudiana. I. K., Mukono, H. J., Suhartono, Nugroho, H. S. W., 2020, Determination of priority elements of vigilance in the use of pesticides based on difficulty and usefulness (A supporting study for law and policy in health). *Indian Journal of Forensic Medicine and Toxicology*, 14(2), 1615-1619.

[9]. Ibrahim, I., Sudiana, I. K., Mukono, H. J., Suhartono, Nugroho, H. S. W., 2020, Awareness program of pesticides used among farmers using Difficulty-Usefulness Pyramid (A suggestion for health laws and policies regarding the use of pesticides). *Indian Journal of Forensic Medicine and Toxicology*, 14(3), 1946-1951.

[10]. Nugroho, H. S. W., Suparji, S., Sunarto, S., Handoyo, H., Yessimbekov, Z., Burhanuddin, N., Selasa, P., 2020, Quadrant of Difficulty-Usefulness (QoDU) as new method in preparing for improvement of e-learning in health college. *Risk Manag Healthc Policy*, 13, 1625-1632.

[11]. Sunarto, S., Nugroho, H. S. W., Suparji, S., Santosa, B. J., 2024, Quadrant of difficulty and usefulness for prioritizing community-based disaster preparedness parameter elements. *RMJ*, 49(1):172-175.

[12]. Main, S., Lestari. T., Triasih, R., Chan, G., Davidson, L., Majumdar, S., Santoso, D., Phung, S., Laukkala, J., Graham, S., du Cros, P., Ralph, A., 2019, Training for tuberculosis elimination in Indonesia: Achievements, reflections, and potential for impact. *Trop Med Infect Dis*., 4(3), 107.

[13]. Ritonga, I. L., Setyowati, S., Handiyani, H., Nursasi, A. Y., 2023, Exploring the tuberculosis medication program in Indonesia as perceived by patients and their families: A qualitative study. *Belitung Nurs J*., 9(2), 124-131.

[14]. Lestari, T., Fuady, A., Yani, F. F., Putra. I. W. G. A. E., Pradipta, I. S., Chaidir, L., Handayani, D.,

Fitriangga, A., Loprang, M. R., Pambudi, I., Ruslami, R., Probandari, A., 2023, The development of the national tuberculosis research priority in Indonesia: A comprehensive mixed-method approach. *PLoS One*, 18(2), e0281591.

[15]. Oktamianti, P., Bachtiar, A., Sutoto, S., Trihandini, I., Prasetyo, S., Achadi, A., Efendi, F., 2021, Tuberculosis control within Indonesia's hospital accreditation. *J Public Health Res*., 10(3), 1979.

[16]. Winardi, W., Wahyuni, H., Hidayat, M., Wirawan, A., Nurwidya, F., Uddin, M. N., Yusup, M., 2022, Challenges on tuberculosis care in health care facilities during COVID-19 pandemic: Indonesian perspective. *Narra J*., 2(2), e80.

[17]. Iskandar, D., Suwantika, A. A., Pradipta, I. S., Postma, M. J., van Boven, J. F. M., 2023, Clinical and economic burden of drug-susceptible tuberculosis in Indonesia: national trends 2017-2019. *Lancet Glob Health*, 11(1), e117-e125.

[18]. Fahdhienie, F., Mudatsir, M., Abidin, T. F., Nurjannah, N., 2024, Risk factors of pulmonary tuberculosis in Indonesia: A case-control study in a high disease prevalence region. *Narra J*., 4(2), e943.

[19]. Dana, N. R., Rika, S., M, I. P., Alexander, M. B., Muthia, S., Linda, R., Astri, W., Zuhrah, T., Rahman, A. D., Rahmi, F., Nomira, P., Setia, N. D. A. W., Arif, L. B. L., Ainil. M., Octarini, E. M., Nova, L., Tamia, M. Y., Sri, R. A., Permata, S. A., Mimin, O., Puspa, H. F., Fariz, A. M., 2024, Modifiable and non-modifiable risk factors for tuberculosis among adults in indonesia: A systematic review and meta-analysis. *Afr J Infect Dis*., 18(2), 19-28.

[20]. Kaaffah, S., Kusuma, I. Y., Renaldi, F. S., Lestari, Y. E., Pratiwi, A. D. E., Bahar, M. A., 2023, Knowledge, attitudes, and perceptions of tuberculosis in Indonesia: A multi-center cross-sectional study. *Infect Drug Resist*., 16, 1787-1800.

[21]. Main, S., Triasih, R., Greig, J., Hidayat, A., Brilliandi, I. B., Khodijah, S., Chan, G., Wilks, N., Parry, A. E., Nababan, B., du Cros, P., Dwihardiani, B., 2023, The prevalence and risk factors for tuberculosis among healthcare workers in Yogyakarta, Indonesia. *PLoS One*, 18(5), e0279215.

[22]. Soeroto, A. Y., Pratiwi, C., Santoso, P., Lestari, B. W., 2021, Factors affecting outcome of longer regimen multidrug-resistant tuberculosis treatment in West Java Indonesia: A retrospective cohort study. *PLoS ONE*, 16(2), e0246284.

[23]. Juliasih, N. N., Mertaniasih, N. M., Hadi, C., Soedarsono, Sari, R. M., Alfian, I. N., 2020, Factors affecting tuberculosis patients' quality of life in Surabaya, Indonesia. *J Multidiscip Healthc*., 13, 1475-1480.