DAK FISIK KESEHATAN TO REDUCE MATERNAL AND INFANT MORTALITY RATE

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ABSTRACT

Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) are essential indicators of health development that are written on the national development plan documents. Nevertheless, Indonesia has not yet achieved the national target of MDG's and SDG's. In prediction, without extraordinary policies, the target of SDGs will not be reached by 2030. The government has allocated DAK Fisik Penugasan as one of the efforts to reduce MMR and IMR. So this study aims to capture the effect of DAK Fisik in decreasing MMR and IMR. Panel data from 34 provinces level in 2019 and 2020 are analyzed using mean difference test and quadrant analysis. Results show that there is no significant difference of MMR in 34 provinces with or without DAK Fisik Penugasan. Then there are still many provinces with the lower MMR and IMR which get budget priorities and vice versa. The government should 1) provide a local government stimulus to enhance acceleration of reducing MMR and IMR; 2) allocate budget priority to provinces that have higher score of MMR and IMR; 3) Encourage local governments to improve the quality of DAK Fisik proposals along with better quality of budget absorption.
Keywords: MMR, IMR, Budget.

ABSTRAK

Angka Kematian Ibu (AKI) dan Angka Kematian Bayi (AKB) merupakan dua indikator penting yang menjadi perhatian pemerintah. Keduanya dituangkan dalam dokumen rencana pembangunan (RPJP, RPJMN, RKP) sebagai indikator untuk mengukur derajat kesehatan nasional dan menentukan keberhasilan pembangunan kesehatan. Namun, Indonesia belum mencapai target nasional serta target MDG's dan SDG's untuk standar internasional. Pemerintah telah mengalokasikan DAK Fisik Penugasan sebagai salah satu upaya menurunkan AKI dan AKB. Sehingga tujuan dari penelitian ini adalah untuk melihat pengaruh DAK Fisik penugasan terhadap Penurunan AKI dan AKB. Data panel dari 34 provinsi pada tahun 2019 dan 2020 dianalisis menggunakan uji beda rata-rata dan analisis kuadran. Hasil menunjukkan bahwa tidak ada perbedaan AKI yang signifikan di 34 provinsi dengan atau tanpa DAK Fisik Penugasan. Kemudian masih banyak daerah dengan AKI dan AKB yang lebih rendah namun mendapatkan anggaran prioritas dan sebaliknya. Pemerintah harus 1) memberikan stimulus kepada pemerintah daerah untuk meningkatkan percepatan penurunan AKI dan AKB; 2) mengalokasikan prioritas anggaran kepada daerah yang memiliki nilai AKI dan AKB lebih tinggi; 3) Mendorong pemerintah daerah untuk meningkatkan kualitas proposal DAK Fisik serta kualitas penyerapan anggaran yang lebih baik.
Kata kunci: *AKI, AKB, Anggaran.*

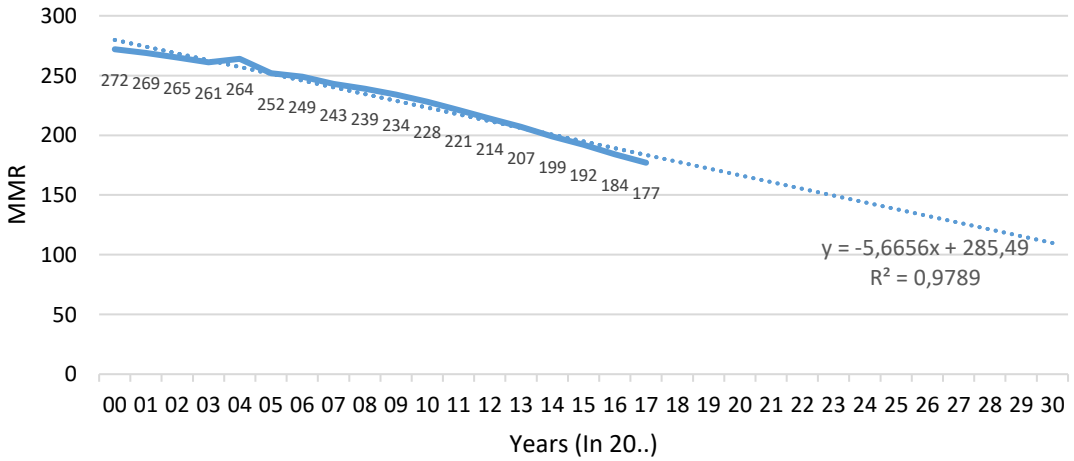
INTRODUCTION

The Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) as indicators of health status and the success of implementing health development has been put in The Long-Term National Development Plan (2005-2025), as well as in the Mid-Term National Development Plan V (2020-2024) and

in the Annual Working Plan (2022). It shows that the government is still concerned about maternal and child health problems indicated by the MMR and IMR indicators.

MMR has declined since 2004 until now. However, based on projections, the MMR is estimated to reach 109-110 in 2030 (Figure 1). This value is still above the SDGs target of 70 in 2030. So, without extraordinary policies, the SDG's target is difficult to achieve.

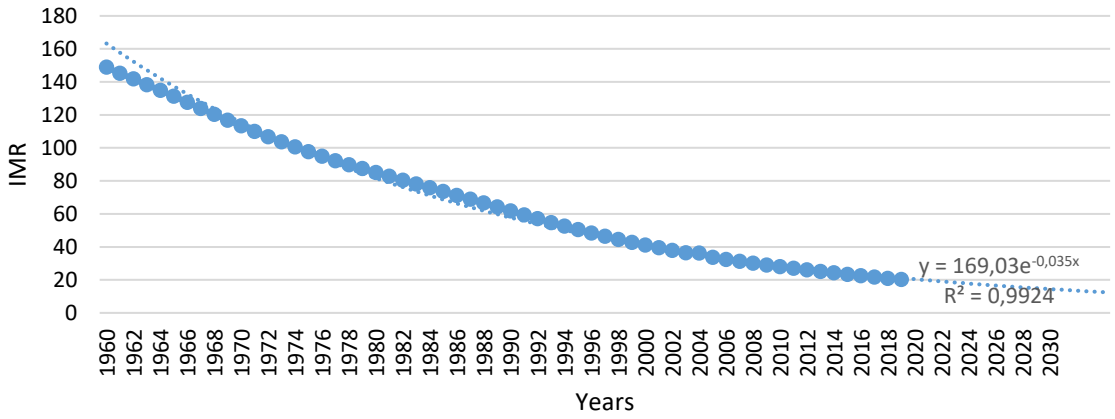
Figure 1. Projected of MMR in Indonesia



Source: Author's calculation based on data from World Bank, 2021a

Figure 2 shows that IMR in Indonesia has experienced a downward trend to date. By the current policy, in 2030 the IMR is estimated to reach 15-16 infant deaths per 1000 live births. This value is still above the SDG's target, which is 12 infant deaths per 1000 live births. For these reasons, more efforts are needed than what the current government has done. Without an extraordinary policy, the SDG's 2030 target will not be achieved.

Figure 2. Projected of IMR in Indonesia



Source: Author's calculation based on data from World Bank, 2021b

To decrease MMR and IMR, the Government has developed a comprehensive program with a family approach. That could be seen in The Minister of Health of The Republic of Indonesia Regulation No. 39 of 2016 about Guidelines for the Implementation of a Healthy

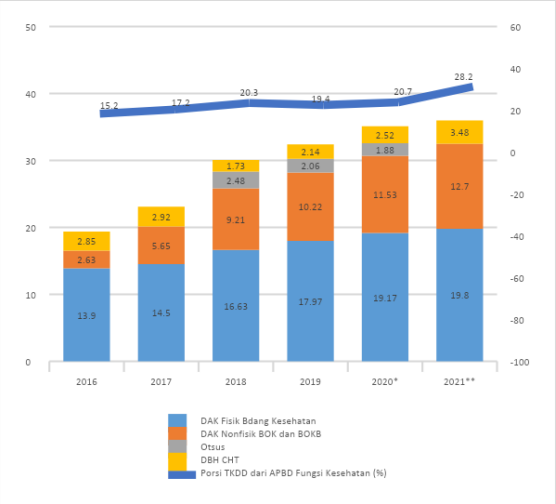
Indonesia Program with a Family approach. In other hand, availability of infrastructure is a determining factor for the performance of policies, especially health policies (Fretes et.al, 2016). So that the Government's policy to decrease the MMR and IMR can be achieved if the health infrastructure is available.

The Law Number 36 of 2009 on Health mandated a health budget allocation of 5% of state expenditure. Government committed to improving public health quality. The construction of health facilities is one of the government's ways to improve the quality of public health. This can be seen from the budget allocation that can be used for the construction of health facilities. One of the budget allocations that can be used to build health facilities is the DAK Fisik Kesehatan. Based on Figure 3, the proportion of DAK Fisik to the health budget in TKDD reaches more than 50 percent. DAK Fisik is directed to reduce MMR and IMR (PMK No. 8 of 2021).

The allocation of DAK Fisik Kesehatan shows an increasing trend (figure 3). This shows that more health facilities have been built. Along with the number of health facilities that are built, it is hoped that the quality of public health will improve. Where MMR and IMR rate are indicators used to measure the quality of public health. So this study aims to see the effect of DAK Fisik to decrease MMR and IMR. So this study aims to see the effect of DAK Fisik Kesehatan to decrease MMR and IMR.

Figure 3. Budget Support In APBN

(In a trillion rupiah)



Note: 1) Dana Otsus and DBH CHT 2016-2017, the policy is not yet specific for health;
2) The use of Otsus 2021 for health has not yet been identified
Source: DJPK Kemenkeu *Outlook **APBN TA 2021

METHOD

This study uses MMR and IMR data provinces level from Pusdatin Kementerian Kesehatan and DJPK Kementerian Keuangan. There are 68 data from 34 provinces in 2020 and 2021 due to data limitations of DAK Fisik allocation specifically for MMR and IMR.

DAK Fisik that used are Reguler and Penugasan. DAK Fisik Reguler is directed at improving the quality of community welfare through the fulfillment of basic services and economic equity for all of local governments while DAK Fisik Penugasan is directed to support the achievement of national priorities which are the authority of the regions with

specific scope of activities and certain priority locations. Based on 2020-2021 allocation data, the proportion of DAK Fisik Reguler is 13.9% and DAK Fisik Penugasan is 86.1%. DAK Fisik Reguler is distributed to all regions while DAK Fisik Penugasan is distributed to 53 local governments (2020) and 345 local governments (2021) out of 542 local governments in Indonesia.

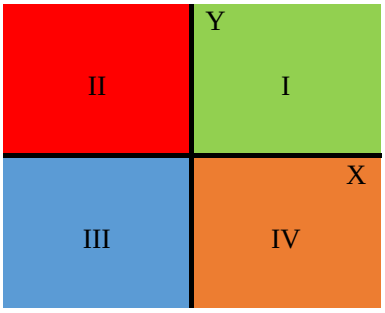
To determine the impact of DAK Fisik on the decline in MMR and IMR, several methods were used: 1) Analysis of the mean difference test; and 2) Quadrant Analysis. These methods are used to look at the DAK Fisik budget for the reduction of MMR and IMR and the level of MMR and IMR by province level.

Analysis of the mean difference test compares the mean of the two groups. The first group consists of districts that receive a DAK Fisik Penugasan. The second group, as a control group, consists of districts that do not receive DAK Fisik Penugasan.

Previously, a normality test for data was done. This normality test is used to choose the correct method that we will use. If both data groups have normal distribution, we will analyze them with t-test. But if one of them is not normally distributed, we will analyze them with non parametrics such as the Wicoxon rank test. After that, see the level test of equality variances. If sig < alpha (0,05) thus H0 is rejected or the two groups are heterogeneous and vice versa.

Quadrant Analysis consists of two axes: budget allocation and IMR/MMR. Correlation of these variables reveals a relationship between government budget allocation priorities and MMR/IMR. A quadrant chart is technically a scatter plot that is divided into four sections or quadrants. In Quadrant I, both budget allocation and IMR/IMR are above average. In Quadrant II, budget allocation above average while IMR/IMR below average. In Quadrant III, both budget allocation and IMR/IMR are below average. In Quadrant IV, budget allocation below average while IMR/IMR above average.

Figure 4. Sketch for quadrant



RESULTS

Based on these data and methods shows the following results:

Mean difference test

In the 2020 fiscal year, the government provides DAK Fisik Penugasan to reduce MMR and IMR in 16 provinces. By accepting the DAK Penugasan, it is expected that the value of the MMR and IMR in the area will decrease significantly compared to the provinces that do not receive the DAK Fisik Penugasan. Thus, a comparison in the MMR value between provinces that received the DAK Fisik Penugasan and provinces that did not receive the DAK Fisik Penugasan are made. By using mean difference test (Figure 5), it can be seen that the Levene's test for equality of variances greater than alpha (0,083>0,05) so they are homogeneous variances. Then, sig value on equal variances assumed greater than

alpha (0,43>0,05) so there is no significant change between the two groups. It means, the allocation of the DAK Fisik Penugasan is not accompanied by a decrease in the value of the MMR in the receiving provinces. Out of the 16 provinces receiving the DAK Fisik Penugasan, only 4 provinces experienced a decline in the MMR value. On the other hand, there were 4 provinces that received the DAK Fisik Penugasan that experienced an increase in the MMR value. This may indicate that those provinces have problems in budgetary governance of DAK Fisik.

Figure 5. Mean Difference Test Output

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig	t	df	Sig.(2-tailed)	Mean Difference	Std. Error Difference
dif	Equal Variances assumed	3.205	.083	-.848	32	.403	-11.998	14.144
	Equal Variances not assumed			-.925	31.350	.362	-11.998	12.967

Source: Author's Calculation

Quadrant Analysis

This analysis is conducted by using a graphic of quadrant values of the 2020 and 2021 values of DAK Fisik Kesehatan with the values of the MMR and IMR (lag 1 year). There are several terms used in this analysis, namely the area of MMR and IMR is said to be high if the value is above the average and vice versa. Then from the budget side, budget priorities refer to provinces with above-average budgets. The results of the quadrant graph show that the amount of the MMR and IMR values is not in line with the amount of the DAK Fisik Kesehatan budget allocation for the reduction of the MMR and IMR. There are still many provinces in quadrant II where provinces with low MMR and IMR receive higher budget priorities. On the other hand, there are provinces in quadrant IV with high MMR and IMR which do not receive budget priority. These budget priorities had not significantly changed from 2020 to 2021. There are still 6 out of 11 provinces (MMR) and 12 of 14 provinces (IMR) that do not experience an increase in budget priorities (Table 1). This shows that the allocation of the DAK Fisik Kesehatan for the reduction of MMR and IMR is still a problem today.

Figure 6. Quadrant of DAK Fisik Allocation for Reducing MMR and IMR in 2020*

Figure 7. Quadrant of DAK Fisik Allocation for Reducing MMR and IMR in 2021*

Note: Adjustment using Indeks Kemahalan Konstruksi as a proxy for geographical difficulties
Source: Author's calculation based on budget data from BPS, DJPK Kemenkeu, Pusdatin Kemenkes RI, Kemenkes RI
*) IMR only available in 2019

Table 1. Quadrant Chart Summary

Points	MMR	IMR
MMR and IMR are low but budget priority is high. (Quadrant II)	7 Provinces (2020) 6 Provinces (2021)	4 Provinces (2020) 6 Provinces (2021)
MMR and IMR are high but do not receive budget priority. (Quadrant IV)	11 Provinces (2020) 9 Provinces (2021)	14 Provinces (2020) 12 Provinces (2021)
Provinces that have not experienced an increase in budget priorities from 2020 to 2021	6 out of 11 Provinces	11 out of 14 Provinces

From the explanation of the two methods, it shows that there are still problems in the allocation of the DAK Fisik budget for the reduction of MMR and IMR. Budget priority has not been given to provinces with high MMR and IMR levels. In general, there has not been a significant change in the allocation in 2021. Although Table 1 shows a decrease in the quantity of provinces in quadrants II and IV, the decrease is not yet significant.

The government should pay more attention to this problem. This is because Indonesia's MMR and IMR numbers are still far above the SDGs target. A strategic plan of action is needed to achieve this with limited time and resources. According to the transactional approach by Donald P. Warwick (1988), planning and implementation are two processes that we can not separate. The government needs to evaluate the Priority Location policy consistently and give budget priorities to provinces with high MMR and IMR. According to Triwibowo (2017), health infrastructure has a significant impact on MMR and IMR. On the other hand, to develop health infrastructure local Governments need a budget. So, budget priority must be given in the district that has higher MMR and IMR, but still considering the applicable laws and regulations. Then, the central government should provide a stimulus by increasing the allocation budget to local governments that have succeeded in optimizing the budget to meet the target of MMR and IMR reduction and vice versa.

In addition, the role of local government is crucial. It is known that the allocation of DAK Fisik has been based on regional proposals since 2016. Many provinces with low MMR and IMR scores do not propose a proposal for the DAK Fisik Kesehatan for the MMR and IMR sub-sectors. This indicates that the reduction of maternal and infant mortality has not become a priority in these local governments. Local governments tend to carry out populist policies. This is the cause of the local government's lack of focus in implementing national priority programs.

CONCLUSION

Based on the explanation above, there are some problems in the budget priorities of the DAK Fisik for the reduction of the MMR and IMR. The government, both central and local governments, need to pay serious attention to these problems. The budget priority must be given in the district that has higher MMR and IMR, but still considering the applicable laws and regulations. Then The central government needs to provide a stimulus if the local government can decrease MMR and IMR. In addition, the role of local governments is needed in providing regional proposals as well as better quality of budget absorption considering the current policy for the allocation

of DAK Fisik are Proposal Based. So that in the end the central and local governments can provide better quality services to the people.

One of the major constraints of this study is data availability. The specific data of DAK Fisik for MMR and IMR is only available publicly from 2020 onwards. The data is also limited only at the province level, while the district level is restricted. Therefore, this study can not use a longer research period nor use a broader scope to analyze more about the policy's effectiveness.

REFERENCES

BPS. (2020). Indeks Kemahalan Konstruksi Provinsi dan Kabupaten/Kota 2020. *Badan Pusat Statistik*. https://www.bps.go.id/publication/2020/10/22/f665bbb327720dba650d6514/indeks-kemahalan-konstruksi-provinsi-dan-kabupaten-kota-2020.html

DJPK Kemenkeu. (2021). Dukungan TKDD untuk Belanja Kesehatan. Direktorat Jenderal Perimbangan Keuangan Kementerian Keuangan RI: Disampaikan pada Diskusi Pakar Pusat Kajian Anggaran Setjen DPR RI. *Direktorat Jenderal Perimbangan Keuangan Pusat Kementerian Keuangan Republik Indonesia, 21 Mei 202*.

Fretes, E.D., Warsono, H., Sriatmi, A. (2016). Analisis Pelaksanaan Program Kemitraan Bidan dan Dukun DItinjau dari Aspek Input, Proses, dan Output di Wilayah Dinas Kesehatan Kabupaten Fakfak Provinsi Papua Barat. Jurnal Manajemen Kesehatan Indonesia, Vol 6 No.3, 2016, 163-168

Kemenkes RI. (2020). Profil Kesehatan Indonesia 2019. *Kementerian Kesehatan Republik Indonesia*. https://pusdatin.kemkes.go.id/resources/download/pusdatin/profil-kesehatan-indonesia/Profil-Kesehatan-indonesia-2019.pdf

Kompas. (2021). *Angka Kematian Ibu dan Bayi Meningkat*. https://www.kompas.id/baca/ilmu-pengetahuan-teknologi/2021/03/08/angka-kematian-ibu-dan-bayi meningkat/?status=sukses_login&status_login=login

Nota Keuangan Beserta APBN TA 2021. (2021). Nota Keuangan Beserta APBN TA 2021. *Kementerian Keuangan Republik Indonesia*. https://www.kemenkeu.go.id/informasi-publik/uu-apbn-dan-nota-keuangan/uu-apbn-dan-nota-keuangan-2021/

Pusdatin Kemenkes RI. (2021). Jumlah Kematian Ibu dan Anak per provinsi 2019-2020. *Pusat Data Dan Informasi Kementerian Kesehatan RI.*

RPJMN. (2020). *Rencana Pembangunan Jangka Menengah Nasional (RPJMN) 2020-2024*. https://www.bappenas.go.id/id/berita-dan-siaran-pers/rencana-pembangunan-jangka-menengah-nasional-rpjmn-2020-2024/

RPJPN. (2017). *RPJPN 2005-2025*. https://www.bappenas.go.id/id/data-dan-informasi-utama/dokumen-perencanaan-dan-pelaksanaan/dokumen-rencana-pembangunan-nasional/rpjp-2005-2025/rpjpn-2005-2025/

Triwibowo, (2017) Etika Pelayanan Kesehatan dalam Perspektif Undang-Undang Kesehatan, Rajawali Pers, Jakarta.

Warwick, D. P. (1988). Culture and the management of family planning programs. Studies in Family Planning, 19(1), 1–18.World Bank. (2021a). Maternal mortality ratio (national estimate, per 100,000 live births).

https://data.worldbank.org/indicator/

World Bank. (2021b). *Mortality rate, infant (per 1,000 live births)*. https://data.worldbank.org/indicator/SP.DYN.IMRT.IN