UTILIZATION OF HEALTH OPERATIONAL ASSISTANCE (BOK) IN NUTRITION SERVICES IN PUBLIC HEALTH CENTER

Dece Mery Natalia Pay*, Mindo Sinaga, Marthen R. Pelokilla

Public Health Science, Postgraduate Program, Nusa Cendana University

Abstract

Since BOK was launched in 2010, BOK utilization rate continued to increase while the NTT provincial nutrition service coverage did not increase, until 2013. This research aimed to analyze the relationship between the availability of operational funds, the availability of human resources, officer's knowledge, infrastructure support, heads support and the appropriateness of fund utilization using BOK in nutritional services. This was a quantitative research which supported by a qualitative, cross-sectional design in 2015. The total sample of 250 health workers in 26 health centers of North Central Timor regency was included in this study. Data analysis was done using descriptive, bivariate and multivariate analyses. The results of the bivariate analysis using chi square test showed an association of (p <0.05) the availability of human resources (p = 0.017), officer's knowledge (p = 0.000), infrastructure support (p = 0.004), heads support (p = 0.000) and the appropriateness of BOK fund utilization (p = 0.000) with the use of BOK in nutritional services. Meanwhile, the availability of operational funds is not associated with the use of BOK in nutritional services. Multivariate analysis showed that health centers with adequate human resources availability are seven times more likely to take advantage and make a good use of the nutritional services using BOK compared to health centers with the lack of human resources, after the infrastructure and head variable controlled.

The government is required to provide adequate human resources, including financial administrative personnel and operational funding for health centers to optimize nutritional services. The government also needs to monitor the use of funds regularly and tiered to improve service coverage at the health center.

Introduction

Health Operational Assistance (BOK) is the central government support for local governments to accelerate the achievement of the Millennium Development Goals (MDGs) in health sector in 2015 (Ministry of Health, 2014). Millennium development agenda achievement report in 2014 stated that the MDG targets to reduce the prevalence of children under five with low weight-for-age or malnutrition have not yet reached the target (off track) (19.60 percent of the target of 15.50 percent).

MDGs achievement by 2015 is still continued by world consensus to achieve Sustainable Development Goals (SDGs). The MDGs target that still continued in the SDGs that is to end all forms of malnutrition (2030), reduction of stunting and wasting in children under five (2025) as well as addressing the nutritional needs of adolescent girls, pregnant women, breastfeeding women, to the elderly (2025). Health Research Report (Riskesdas)
in 2013, showed the highest cases that occur in NTT province are severe malnutrition (11.5 percent), malnutrition (21.5 percent) and stunting (short category of 25.5 percent and 26.2 percent for very short). Nutrition services included as priority in health care at the health center that operations can be financed from the BOK since 2010.

BOK funds in the province of Nusa Tenggara Timur (NTT) since 2010 until 2013 respectively, are Rp 9,322,000,000 for 310 primary health center (2010), Rp 77,250,000,000 for 341 primary health center (2011), Rp 94,512,600,000 for 348 primary health center (2012) and Rp 95,719,000,000 for 364 primary health center (2013). BOK's increased allocation each year was not followed by the actual utilization of funds where the realization decreased from 82.67 percent (2010) to 79.08 percent (2011) and then increased to 94.06 percent (2012) and the highest of 96.63 percent in 2013, although yet to reach the target of 100 percent. BOK funds utilization that have not reached the target due to constraints of the four areas, namely the distribution of funds, human resources, implementation and supervision (NTT Provincial Health Office, 2014).

The largest BOK fund allocation in 2014 was given to the North Central Timor district by the number of funds reaching Rp 7,100,000,000,00 for 26 health centers. Realization of the BOK funds reached 99.58 percent, where the utilization by health centers reached 100 percent, while use of the funds by the Department of Health only reached 94.58 percent. TTU BOK district report of 2014 indicates that the health center has utilized BOK funds for maternal child health and nutrition (31.12%), disease control (21.82%), management (16.22%), development efforts (13.45 %), health promotion (11.17%) and environmental health (6.22%).

BOK funds that have been utilized should improve coverage of priority services in primary health centers, including nutrition services. A research conducted by Septantie (2013), showed the BOK funds had positive and significant impact on the coverage of children under five who were weighed (D / S), the higher the realization of the BOK, the higher the coverage D / S. Meanwhile, reports of nutritional care coverage NTT Province in 2011 and 2013, showed a decrease and an increase in several indicators over the previous year.

Decline in the coverage occurred in nutrition services in the year 2013 where the number of children under five who were weighed (D / S) decreased 0.7 percent; the number of children 6-59 months who received vitamin A capsules decreased 0.3 percent and the number of pregnant women who received 90 tablets Fe decreased 0.1 percent. Improvement of the coverage seen in the infants 0-6 months being exclusively breastfed from 34.3 percent (2011) to 59.5 percent (2012) and continues to increase up to 72 percent (2013) (NTT Provincial Health Office, 2014).

The decline in service coverage of nutrition in health centers due to several major constraints, namely human resources, cross-sector cooperation, supporting infrastructure and reporting mechanisms. The results of the study Ikarateman (2013), showed that the factors causing low coverage of children under five were affected by the lack of public awareness because of the low level of education. BOK had been utilized 100 percent in primary health centers but had not shown an increase in the coverage of nutrition services indicator. From that a question arises, how do health workers utilize BOK in their services? Is there anything that encourages the use of BOK at the health center? Therefore, this study was aimed to analyze the relationship between the availability of operational funds, the availability of human resources, officer's knowledge, infrastructure support, heads support and appropriateness of fund utilization using BOK in nutrition services.

**Method**

Quantitative research supported by qualitative with cross sectional design. Twenty six research sites in North Central Timor district health center in June 2015 to February 2016. The population studied was health workers in primary health centers amounted to 655 people. Purposive sampling with inclusion criteria: (1) nutrition personnel, community health workers, nurses, midwives and BOK manager at the primary health center, (2) at least one year of work experience in the primary health centers and (3) willing to become respondents.
Exclusion criteria namely *pekarya*, cleaners and drivers working at the health center. Total sample was 250 people. The sampling technique used was developed by Taro Yamane or Slovin in Riduwan (2007) as follows:

\[ n = \frac{N}{N_d + 1} \]

Description: \( n \) = number of samples; \( N \) = Number of population; \( d^2 \) = the value of precision of 95% or sig. 0.05. The formula is based on the number of samples obtained as follows:

\[ n = \frac{N}{N_d + 1} = \frac{655}{0.05^2 + 1} = \frac{655}{0.264} = 240.11 \text{ rounded to } 240 \]

The number of samples in this study were rounded to 250 samples. Qualitative data is drawn at random according to the needs of desired information. The instrument used was a questionnaire and an interview guide. The dependent variable was the use of BOK in nutrition services; while the independent variables consist of the availability of operational funds, availability of human resources, officer’s knowledge, infrastructure support, heads support and appropriateness of fund utilization.

**Results and Discussion**

Results of research on the relationship of operational availability of funds, availability of human resources, officer’s knowledge, infrastructure support, heads support, appropriateness of fund utilization using BOK in nutrition services shown in Table 1.

Table 1 shows there are five variables with \( p \) value < 0.05, namely the availability of human resources, officer’s knowledge, infrastructure support, heads support and suitability of the use of funds. This shows that there is a relationship between the availability of human resources, knowledge officers, support infrastructure, support the head and appropriateness of fund utilization using BOK in nutrition services.

Most respondents in this study stated their lack of operational funds at the primary health center, which is not enough to facilitate the nutrition service. It can be seen in Table 1 from the number of samples obtained, there are five variables with \( p \) value < 0.05, namely the availability of human resources, officer’s knowledge, infrastructure support, heads support and appropriateness of fund utilization using BOK in nutrition services.

---

**Table 1. Bivariate Analysis**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>BOK Utilization in Nutrition Services</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Good</td>
<td>%</td>
</tr>
<tr>
<td>Availability of operational funds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adequate</td>
<td>2</td>
<td>1.8</td>
</tr>
<tr>
<td>Inadequate</td>
<td>112</td>
<td>98.2</td>
</tr>
<tr>
<td>Availability of Human Resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adequate</td>
<td>4</td>
<td>3.5</td>
</tr>
<tr>
<td>Inadequate</td>
<td>110</td>
<td>96.5</td>
</tr>
<tr>
<td>Officer’s Knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>112</td>
<td>98.2</td>
</tr>
<tr>
<td>Low</td>
<td>2</td>
<td>1.8</td>
</tr>
<tr>
<td>Infrastructure Support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supporting</td>
<td>58</td>
<td>50.9</td>
</tr>
<tr>
<td>Less Supporting</td>
<td>56</td>
<td>49.1</td>
</tr>
<tr>
<td>Heads Support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supporting</td>
<td>106</td>
<td>93.0</td>
</tr>
<tr>
<td>Less Supporting</td>
<td>8</td>
<td>7.0</td>
</tr>
<tr>
<td>BOK fund utilization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriate</td>
<td>110</td>
<td>96.5</td>
</tr>
<tr>
<td>Less Appropriate</td>
<td>4</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Source : Primary Data
health center. The results showed the majority of officers borrow money to carry out services. Not all the proposed nutritional services activities approved, not all planned activities funded and the amount of local transport paid, is less than the real expenditures in the field. In addition, the budgets of local governments is minimal for operational such as transport for activities outside of the building, meetings consumption, PMT material and fuel cost of primary health center vehicle. This is supported by the statement of the head of the district health bureau and the head of the primary health center.

"Now because the existing funds of BOK and JKN, there are almost no operational costs to the primary health center from the local government, but usually routinely needed medications are still funded". (Inf.1)

“Our monthly POA made only for BOK, since there are no other sources of funds, to be honest. Our activity is dependent on the BOK. Last year, children under five with malnutrition were not taken from all the primary health care. But we take 3 primary health care with the highest coverage of malnutrition in children under five, that which we give 10 days PMT”. (Inf.4)

The results showed that sufficient operational funds are not related to the utilization of BOK funds in nutrition services. These results are not in contrast to Beratha (2013), studies which showed relationship exist between the BOK funds and worker performance. Officers who get enough BOK funds has a chance of high performance 4.1 times greater compared to those who get lesser funds.

However, these results are consistent with Dodo (2013), studies where BOK funds were the only source of funds to finance the implementation of promotive and preventive programs at the primary care level because there is no allocation from local government budget. The results of the study Gamrin (2015), showed the health instructor workers only got BOK in very limited amounts and types and can't meet all their needs. The study by Bahar (2012), Mulyawan (2012), Mokodaser (2013), and Mansur (2015), all showed several problems facing the primary health centers are lack of funds and delays in the disbursement of BOK funds, thus hindering the implementation of activities. Pani (2012), also stated that primary health center system uses borrowed money or debt because BOK funds received by primary health center were late while the activity should remain implemented. Delays in funds received by the primary health center were due to the funds arriving late at the district and health center were late entering the PoA. Regional government shall carry out and finance the primary public health services related to health development priorities (Notoatmodjo, 2011). Total funds available are always limited, so the main attention is not on efforts to increase funding, but in setting the deployment and utilization of available funds. If only very limited funds were available, dissemination and utilization is not yet perfect, but if managed properly, the goal of health care services can still be achieved. However, fund management is still not perfect, this associated with limited knowledge and skills as well as the mental attitude of the manager (Anwar, 2010).

Most respondents in this study stated they work in primary health centers that lack of human resources. This is evident from the answers to most of the respondents who have never attended the socialization of nutrition services, public finance management and fraud practices / corruption against the country's finances. This is supported by statement of the head of the primary health center:

“Our health center is at the border, with 26 officers for 9 villages, we do not have enough human resources. There are programs that can't be implemented. Actually we've designated officer for every program, but they played a double role. Because the one that designated are the nurses, they consumed more time for the health services, they have picket until the evening. We are all doubling tasks, including the BOK treasurer is our pharmacist". (Inf.4)

This study found that the human
resources availability correlated with BOK utilization in nutritional service. This is in accordance with a study by Esra (2010), which found that human resources management correlated with organization performance. Dodo (2013), found several factors that caused inefficiency in BOK utilization, particularly limitation in number and quality of human resources to conduct programs of Puskesmas, therefore numerous double-duty happened. Nurcahyani (2013), showed that the most important factor that influenced the implementation of BOK policy was inadequate number and competence of human resources, especially competence in finance sector. Mulyawuan (2012), concluded that BOK budget as an innovation from Ministry of Health was viewed as positive factor in increasing healthcare personnel's motivation. Wirapuspita (2013), also found that work motivation of Posyandu (Integrated Care Post) cadre would increase with addition of operational budget, transportation budget, training, and merit awards. Raharjo (2014), found that the role of midwives as healthcare provider was decisive in the success of early breastfeeding initiation and exclusive breastfeeding to the newborn.

Theory of system by Notoatmodjo stated that human resources is part of input in order for the system to function. Human resources is an important asset in organization and is a working motor of management process (Murti, 2014). Pursuant to the Regulation of Minister of Health Number 75 Year 2015 on Public Health Center (Puskesmas), healthcare personnel must work according to the standard of profession, standard of care, standard operating procedures, profession ethics, respecting patient's right, and also prioritizing patient's interests and safety. If working distribution had been done clearly and according to personnel's ability, they will develop into solid, unified, and competent working group (Murti, 2014). Puskesmas should have non-healthcare personnel to take care of administrative and financial matters.

Most of the respondent's knowledge of BOK utility proportion, nutritional program's targets, budget management mechanism, items which can and cannot be financed by BOK, finance accountability, and BOK supervision were in high category. This was supported by explanation from nutritional staff in Puskesmas as follow:

“After BOK socialization in health agency, the chief of Puskesmas will subsequently explain to us about it, therefore we also know about BOK. However, the copies of technical guidance is usually held by the chief and the treasurer. Sometime, staffs from health agency also come to join our meeting and explain about BOK. Whoever doesn't know about it surely didn't attend the meeting.” (Inf. 9)

This study showed that there was a correlation between staff’s knowledge and BOK utilization in nutritional service. Increase in staff’s knowledge about BOK utilization would also increase BOK utilization. Staff could use the budget according to the regulation because they know the budget utilization regulation well. Conversely, less knowledgeable staff tend to use the budget minimally because they are afraid of making error when they were supervised by accountability office.

This is in accordance with a study by Aridewi (2013), which showed that a clear understanding about BOK technical guidance in Puskesmas with high budget utilization was successful in repressing legal case. However, a study by Banjamor (2013), found that there was still some program executors who didn't comprehensively understand BOK. A study by Dodo (2013), revealed some factors that causes inefficiency in BOK utilization such as delays in BOK technical guidance distribution and socialization from central government and district government to Puskesmas, and the weak management capacity of health agency in BOK utilization due to some internal variation of knowledge of BOK usage. Puskesmas as a public service provider agency must pay attention to five principles of public service in order to increase the quality of service, especially the principle of assurance in the form of knowledge, behaviour, and staff’s competence (Daryanto, 2014).

Support of facility and infrastructure was included in low category from most of the respondent. Support of facility and infrastructure comprised of working facilities (computer,
laptop, printer, reference frame, guidance book), tools and material (measurement tools, vitamin A capsule, weaning food, food model, report form), media of information and education communication in nutritional service (poster, leaflet, and feedback form), and infrastructures (power supply, clean water, road access, Posyandu building, and inpatient facility for malnourished child). This is supported by statement from chief of nutrition service in Puskesmas as follow.

“Many village delivery house (Polindes) lose their weight scale. There is only one in Puskesmas. If our staff go on a duty and take it with him, how about patient that go to Puskesmas”. (Inf. 3)

“Last year, the PLN power has already run for 24 hours. Puskesmas only has one computer, other staff use their private laptop. There is no printer. Food model is broken. When I first came it was in good condition, but when it is broken, it is put in the filling cabinet. When we want to conduct an education, we can only use verbal explanation.” (Inf. 9)

This study showed that support in facility and infrastructure was related to BOK utilization in nutritional service. This is in accordance with a study by Gamrin (2015), which found that the availability of facility and infrastructure were not representative: educating people using lecture method without using loudspeaker, unavailability of staff’s computer/laptop, and the unrepresentativeness of staff room. Wirawan (2014), stated that educator staff which used audio visual media such as playing the media could make the respondent pay more attention to the session and effectively increases mother’s knowledge. Similar result was found by Hamida (2012), which stated that media utilization could attract new interest, decrease boredom, stimulate motivation, increase clarity of education material, and increase psychological effect.

Implementation of Puskesmas program must be supported by sufficient resources. Supports in the form of operational budget, working tools such as medical instrument, drugs, vaccines, etc. are directed to increase staff’s performance and give excellent healthcare and satisfies the customers. Inadequate resources would affect the quality of healthcare (Murti, 2014).

Chief’s support is support from chief of Puskesmas to staff in order to utilize BOK in nutritional service. This study showed that most of the respondent get support from chief of Puskesmas to use BOK in nutritional service. Chief support had been done excellently in the form of motivation to use BOK in nutritional service, instruction issue, routine monitoring, consultation, and supervision of BOK-funded program. This was supported by statement from nutrition staff and chief of Puskesmas as follow:

“BOK is prioritized for MDGs program which is maternal and child health, and also nutrition. Chief of Puskesmas always assert that in every meeting so it become a priority and relevant with existing problem.” (Inf. 9)

“I always instruct to budget the distribution of supplement food to child below red line and malnourished in our BOK every year. The source of malnutrition are also prevented. Therefore, there is no malnutrition case until now. We believe that prevention is better”. (Inf. 8)

This study showed that chief support was related to BOK utilization in nutritional service. Staff that were supported by the chief were better to utilize BOK in nutritional service, compared to staff which didn’t get the support. A study by Pani (2012), found that the role of chief of Puskesmas in socialization and monitoring of BOK utilization wasn’t optimal. Dharmawan (2015), also stated that supportive and planned supervision from managers were important in the success of health programs. The chief functions as both supervisor and guide. For the staff, not the manager, supervision and guidance would be useful so they would get the information clearly about what should be done. If the information wasn’t clear, they could directly asked for another explanation to prevent unnecessary errors (Notoatmodjo, 2011).
BOK budget utilization is a process of BOK utilization from planning (P1), mobilization and execution (P2), guidance, supervision, and evaluation (P3). This study found that BOK budget utilization in most of the staff were in appropriate category. The staff had use data in planning stage of Puskesmas in workshop. Transparency was also implemented indicated by attachment of PoA document in Puskesmas information board. Intersectoral cooperation was also under way. BOK budget utilization wasn’t duplicated by another budget source in Puskesmas. Respondent didn’t have any difficulty in making BOK budget accountability report. Routine registration, report, supervision, and evaluation were implemented well in Puskesmas. However, program feedback from objects had not been carried out optimally. The least executed activity was technical guidance from health agency. This was supported from statement by chief of Puskesmas and nutritional service staff as follow:

“There is some technical difficulty in reporting stage, we are quite late because it should be done in every month”. (Inf.4)

“We cannot mobilize the objects so in intersectoral workshop or coordination meeting, we express our concern and there was an agreement in the form of village rule which stated if the people don’t come to Posyandu they should pay amount of charge. D/S coverage in some village had increase from 70 percent into 98 percent.” (Inf. 7)

“We are quite open between ourselves about financial aspect. We plan the POA collectively, using projector, so when someone has a suggestion, everybody can see it. We also have a complete coverage data.” (Inf. 9)

This study found that BOK budget utilization was related to BOK utilization in nutritional service. This is in accordance with a study by Pani (2012), which found that BOK budget was utilized according to field requirement and accounted according to technical guidance. Ainy (2012), showed that BOK implementation had referred to regulation from Ministry of Health of the Republic of Indonesia. Mokodaser (2013), also stated that BOK programs in the form of priority and supporting health efforts and their utilization were implemented according to technical guidance from Ministry of Health. The same result was stated by Parawansa (2014), in which BOK was implemented well in the aspects of policy, management staff, organization, and supervision. Different result was showed by Burdames (2015), which found that BOK policy had not been implemented well in which there was no problem prioritization agreement, lack of budget, unequal distribution, and budget utilization which had not been maximal. Dasmarr (2013), found process, planning, organization, and implementation stages were satisfactory, whereas reporting and supervision/monitoring of BOK were not optimal. Pratiwi (2012), also found a weakness in BOK supervision and accountability control, especially in Puskesmas that are far from district capital. Bahar (2012), stated that the function of guidance and supervision from health agency were not carried out as expected because of the narrow range of execution time.

Table 2. End modelling result of multivariate analysis of factors that correlated with BOK utilization in nutritional service

<table>
<thead>
<tr>
<th>Variables</th>
<th>P value</th>
<th>OR</th>
<th>95% C.I.</th>
<th>EXP (B) Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human resources availability</td>
<td>0.001*</td>
<td>7.176</td>
<td>2.210</td>
<td>23.304</td>
<td></td>
</tr>
<tr>
<td>Staff’s knowledge</td>
<td>0.001*</td>
<td>0.081</td>
<td>0.017</td>
<td>0.371</td>
<td></td>
</tr>
<tr>
<td>Facility and infrastructure support</td>
<td>0.769</td>
<td>1.096</td>
<td>0.596</td>
<td>2.014</td>
<td></td>
</tr>
<tr>
<td>Chief support</td>
<td>0.506</td>
<td>0.696</td>
<td>0.239</td>
<td>2.027</td>
<td></td>
</tr>
<tr>
<td>Budget utilization</td>
<td>0.000*</td>
<td>0.089</td>
<td>0.027</td>
<td>0.294</td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary Data
of the programs.

The end result of multivariate analysis of correlation between all variables was shown in Table 2.

Table 2 shows that there are three variables with p value < 0.05: human resources availability, staff’s knowledge, and budget utilization. This shows that there was a correlation between human resources availability, staff’s knowledge, and budget utilization after controlling the effect of facility and infrastructure support and chief support. Variable that dominantly correlated is human resources availability which have the highest OR (7.176). This shows that Puskesmas with sufficient human resources have seven times greater probability to utilize BOK in nutritional service excellently compared to Puskesmas with inadequate human resources, after controlling facility and infrastructure support variable and chief support variable. Optimization of BOK utilization in nutritional service could be done by fulfilling human resources requirement, including financial administration staff, providing operational budget from another source beside BOK, and implementing routine gradual supervision in budget utilization in Puskesmas in order to increase service coverage.

Conclusions

BOK is useful in nutritional service in Puskesmas. This study shows that BOK utilization in nutritional service was not better in staff which get operational budget in sufficient category. BOK utilization in nutritional service was found better in Puskesmas with sufficient human resources, high staff’s knowledge, and utilization of BOK according to the rules. Human resources availability was the most dominant variable which correlated to BOK utilization in nutritional service. Puskesmas with sufficient human resources has seven times greater probability to utilize BOK in nutritional service excellently compared to Puskesmas with inadequate human resources, after controlling facility and infrastructure support variable and chief support variable.

Acknowledgements

We would like to express our gratitude to Head of Health Agency of NTT Province and his staff for their moral and material support. We would also like to express our gratitude to Head of Health Agency of TTU District, his staff and all the staffs of Puskesmas which consented to become respondents in this study, and also to all people who supported this study.

References

(04) : 182 - 191
Banjamor, E. M., Bonitha and Kahar, Hakim &
Alimansyah. 2013. Efektivitas Pelaksanaan
Program Biaya Operasional Kesehatan Pada
Puskesmas Beringin Raya Kecamatan Muara
Bangkauhulu Kota Bengkulu. Jurnal UNIB,
Pusat Pengarsipan Data dan Karya Tulis
Ilmiah Universitas Bengkulu.

Beratha, O., Wirakusuma IB., dan Sudibya A. 2013. Hubungan Karakteristik, Motivasi dan Dana
BOK dengan Kinerja Petugas KIA Puskesmas
di Kabupaten Gianyar. Journal Public Health
and Preventive Medicine Archieve. 1(1) : 1-7


