

RINGKASAN**PERBEDAAN PENGARUH PEMBERIAN MODISCO, FORMULA WHO
DAN MAKANAN PADAT GIZI TERHADAP PENINGKATAN
STATUS GIZIBALITA PADA FASE REHABILITASI
DI KABUPATEN BELU PROPINSI
NUSA TENGGARA TIMUR****MADE AGUS SUGIANTO**

Periode penting dalam tumbuh kembang anak adalah masa balita, karena pada masa ini terjadi pertumbuhan dasar yang akan mempengaruhi dan menentukan perkembangan anak selanjutnya. Prevalensi gizi kurang pada balita di Indonesia sebesar 16,9 %, dan prevalensi gizi buruk sebesar 7,6 %.

Penelitian ini adalah suatu penelitian eksperimental dengan tujuan mempelajari peningkatan status gizi balita pada fase rehabilitasi di Kabupaten Belu, dengan pemberian Modisco, Makanan Padat Gizi dan Formula WHO.

Sampel yang menjadi subyek penelitian adalah balita usia 24-60 bulan yang dirawat di puskesmas Rawat Inap Betun dan RSUD Atambua karena menderita KEP, lalu di-*screening* dengan kriteria fase rehabilitasi dan nilai *Z-Score* dengan menggunakan indeks BB/U <-2. Subyek penelitian dibedakan atas 3 (tiga) kelompok, masing-masing kelompok berjumlah 13 balita, ketiga kelompok mendapatkan perlakuan yang berbeda-beda selama 4 minggu, yaitu kelompok II dan III di puskesmas Rawat Inap Betun masing-masing diberi makanan padat gizi dan Formula WHO, sedangkan untuk kelompok I di RSUD Atambua diberi Modisco. Sebelum diberikan perlakuan, balita sampel diberikan obat cacing berupa Mebendazole 125 mg dengan dosis sekali minum, dan yang menderita penyakit infeksi diberikan pengobatan terhadap penyakit infeksinya.

Hasil penelitian menunjukkan bahwa sebagian besar ayah balita berpendidikan SD atau tidak sekolah (53,8 %), demikian pula dengan ibu balita umumnya berpendidikan SD atau tidak sekolah (74,4 %). Untuk pekerjaan ayah balita terbanyak bekerja sebagai buruh tani (59,0 %) dan sebagian besar ibu balita tidak bekerja (61,5 %). Jumlah anggota keluarga umumnya berjumlah lebih dari 5 orang (59,0 %), dengan jumlah balita sebagian besar lebih atau sama dengan

3 orang (53,8 %). Pengeluaran untuk biaya makan sebagian besar di bawah Rp. 350.000,- (61,5 %), sedangkan untuk pola makan terbanyak hanya mengonsumsi nasi/jagung + sayur.

Pada ketiga kelompok perlakuan menunjukkan adanya peningkatan rata-rata berat badan sebelum dan sesudah perlakuan. Selisih rata-rata berat badan tertinggi dijumpai pada kelompok Makanan Padat Gizi yaitu sebesar $1,99 \pm 0,26$ kg, dan terendah dijumpai pada kelompok Modisco yaitu sebesar $1,35 \pm 0,51$ kg, sedangkan pada kelompok Formula WHO sebesar $1,88 \pm 0,16$ kg.

Untuk tinggi badan, selisih rata-rata kenaikan tinggi badan sebelum dan sesudah perlakuan tertinggi pada kelompok Makanan Padat Gizi yaitu sebesar $0,39 \pm 0,23$ cm, dan terendah pada kelompok Formula WHO sebesar $0,26 \pm 0,26$ cm, sedangkan kelompok Modisco sebesar $0,37 \pm 0,18$ cm.

Hasil uji *t* berpasangan terhadap nilai Z-Score dengan menggunakan indeks BB/U *pre test* dan *post test* untuk masing-masing kelompok menunjukkan adanya perbedaan yang sangat bermakna ($p < 0,05$) pada kelompok Modisco, Makanan Padat Gizi dan Formula WHO.

Selisih rata-rata nilai Z-Score *pre test* dan *post test* dengan menggunakan indeks berat badan terhadap umur (BB/U) tertinggi dijumpai pada kelompok Makanan Padat Gizi sebesar $1,43 \pm 0,28$ dan terendah dijumpai pada kelompok Modisco sebesar $0,95 \pm 0,38$. Untuk Formula WHO selisihnya sebesar $1,38 \pm 0,23$.

Hasil uji *Anova One Way* terhadap selisih *pre test* dan *post test* untuk nilai Z-Score dengan menggunakan indeks berat badan terhadap umur (BB/U) juga diperoleh hasil yang menunjukkan adanya perbedaan yang sangat bermakna antara ketiga kelompok.

Hasil uji LSD (*Least Significant Defferent*) untuk selisih *pre test* dan *post test* nilai Z-Score dengan menggunakan indeks berat badan terhadap umur (BB/U) menunjukkan bahwa antara kelompok Modisco dengan Makanan Padat Gizi ada perbedaan bermakna ($p < 0,05$), demikian juga halnya antara kelompok Modisco dengan Formula WHO menunjukkan ada perbedaan bermakna, sedangkan antara

kelompok Makanan Padat Gizi dengan Formula WHO tidak ada perbedaan bermakna ($p > 0,05$)

Hasil uji t berpasangan nilai *Z-Score* dengan menggunakan indeks berat badan terhadap tinggi badan (BB/TB) *pre test* dan *post test* untuk kelompok Modisco, Makanan Padat Gizi dan Formula WHO menunjukkan ada perbedaan sangat bermakna pada masing-masing kelompok.

Selisih rata-rata nilai *Z-Score* rata *pre test* dan *post test* dengan menggunakan indeks berat badan terhadap tinggi badan (BB/TB) tertinggi dijumpai pada kelompok Makanan Padat Gizi dan Formula WHO sebesar $2,0 \pm 0,4$ dan $2,0 \pm 0,3$ sedangkan pada kelompok Modisco sebesar $1,4 \pm 0,5$.

Hasil uji *Anova One Way* terhadap selisih *pre test* dan *post test* nilai *Z-Score* dengan menggunakan indeks berat badan terhadap tinggi badan (BB/TB) juga diperoleh hasil yang menunjukkan adanya perbedaan yang sangat bermakna antara ketiga kelompok.

Hasil uji LSD (*Least Significant Defferent*) untuk selisih *pre test* dan *post test* nilai *Z-Score* dengan menggunakan indeks berat badan terhadap tinggi badan (BB/TB) menunjukkan bahwa antara kelompok Modisco dengan Makanan Padat Gizi ada perbedaan bermakna ($p < 0,05$), demikian juga halnya antara kelompok Modisco dengan Formula WHO menunjukkan ada perbedaan bermakna, sedangkan antara kelompok Makanan Padat Gizi dengan Formula WHO tidak ada perbedaan bermakna ($p > 0,05$).

Penelitian ini menunjukkan bahwa dalam penatalaksanaan balita gizi buruk, perlu dipertimbangkan pemberian diit yang mengandung zat gizi makro dan mikro, karena diit yang mengandung zat gizi makro dan mikro akan memberikan hasil yang lebih baik dalam peningkatan status gizi balita khususnya pada fase rehabilitasi.

SUMMARY**DIFFERENCE OF EFFECT ADMINISTRATION OF MODISCO,
NUTRITIONAL HIGH FOOD AND WHO'S FORMULA TO
IMPROVEMENT OF UNDERFIVES NUTRITIONAL STATUS
DURING REHABILITATIVE FASE IN DISTRICT BELU,
EAST NUSA TENGGARA PROVINCE****MADE AGUS SUGIANTO**

An important period in child growth and development is underfive period. During this period, substantial growth occurs, affecting and determining child development in further stages. However, the prevalence of undernutrition and malnutrition in Indonesia were respectively 16.9% and 7.6%. This was an experimental study aimed to investigate improvement of underfives nutritional status during rehabilitative phase among underfives in the District of Belu, by the administration of Modisco, High Nutritional Food, and WHO Formula.

Samples were underfives aged 24 - 60 months hospitalized at Betun Inpatient Community Health Center and Atambua Hospital due to protein energy deficiency. Samples were screened using rehabilitative phase criteria and Z-score value with BW/A < - 2 index. Subjects were divided into 3 (three) groups, each comprising 13 underfives. They were treated differently for 4 weeks. Group II and III at Betun Inpatient Community Health Center were given with High Nutritional Food and WHO Formula, and Group I in Atambua Hospital was given with Modisco. Prior to the treatment, the underfives were administered with anthelminthes Mebendazole 125 mg in single dose, and those who suffered from infectious diseases were treated accordingly.

Results of the study showed that most of the fathers of the underfives had been educated at elementary school or uneducated (53.8 %), and the mothers had also been generally educated at the same level or uneducated (74.4 %). Most of the fathers were farm laborers (59.0 %) and most of the mothers had no work (61.5 %) Family size was commonly more than 5 individuals (59.0 %), and total underfives was mostly more than or equal to 3 individuals (53.8 %). Expense for food was mostly under Rp. 350,000 (61.5 %), and most of those people consumed rice/corn and vegetables.

The three treatment groups showed average increase of body weight before and after treatment. The highest difference in body weight was found in group receiving High Nutritional Food, i.e., 1.99 ± 0.26 kg, and the lowest in group receiving Modisco, 1.35 ± 0.51 kg, and that in group receiving WHO formula was 1.88 ± 0.16 kg. For body height, the highest average difference in body height increase before and after treatment was found in group receiving High Nutritional Food, 0.39 ± 0.23 cm, the lowest in WHO formula group 0.26 ± 0.26 cm, and in Modisco group 0.37 ± 0.18 cm. The highest average difference of Z-score pretest and posttest using body weight to age index (BW/A) was found in

group receiving High Nutritional Food, 1.43 ± 0.28 and the lowest was found in Modisco group, 0.95 ± 0.38 , and that in WHO formula was 1.38 ± 0.23 .

Results of One Way Anova test to the difference in pretest and posttest for Z-score value using BW/A index also revealed highly significant difference in all groups. Results of LSD (Least Significant Different) test for the difference of pretest and posttest Z-Score value using BW/A index showed significant difference between Modisco group and High nutritional Food Group ($P < 0.05$) and between Modisco groups and WHO's Formula groups. However, no significant difference was found between High Nutritional Food and WHO's Formula groups ($p > 0.05$).

Paired t test for Z-score using BW/BH index pretest and posttest for Modisco, High Nutritional Food, and WHO Formula groups revealed highly significant difference in each groups. Regarding the average difference of Z-score pretest and posttest using BW/BH index, the highest was found in group receiving High Nutritional Food and WHO formula, respectively 2.0 ± 0.4 and 2.0 ± 0.3 , and that in Modisco group was 1.4 ± 0.5 .

Results of One Way Anova test to pretest and posttest difference of Z-score value using BW/BH index also demonstrated highly significant difference in three groups. Results of LSD (Least Significant Different) test for the difference of pretest and posttest Z-Score value using BW/A index showed significant difference between Modisco group and High nutritional Food Group ($P < 0.05$) and between Modisco groups and WHO's Formula groups. However, no significant difference was found between High Nutritional Food and WHO's Formula groups ($p > 0.05$).

This study showed that in the management of underfives with malnutrition, it should be considered to provide macronutrient and micronutrient containing diet to obtain a better result in the improvement of nutritional status in underfives, particularly during rehabilitative phase.

ABSTRACT

**DIFFERENCE OF EFFECT ADMINISTRATION OF MODISCO,
NUTRITIONAL HIGH FOOD AND WHO'S FORMULA
TO IMPROVEMENT OF UNDERFIVES NUTRITIONAL
STATUS DURING REHABILITATIVE FASE IN DISTRICT BELU,
EAST NUSA TENGGARA PROVINCE**

MADE AGUS SUGIANTO

The objective of this study was to investigate improvement of underfives nutritional status during rehabilitative phase in the District of Belu, by the administration of Modisco, Hight Nutritional Food, and WHO's Formula.

This an experimental study was undertaken for 4 weeks. Group II and III at Betun Inpatient Community Health Center were given with Hight Nutritional Food and WHO's Formula, and Group I in Atambua Hospital was given with Modisco. Samples were underfives aged 24 - 60 months hospitalized at Betun Inpatient Community Health Center and Atambua Hospital due to protein energy deficiency. Subjects were divided into 3 (three) groups, each comprising 13 underfives.

The three treatment groups showed average increase of body weight before and after treatment. The highest difference in body weight was found in group receiving Hight Nutritional Food, i.e., 1.99 ± 0.26 kg, and the lowest in group receiving Modisco, 1.35 ± 0.51 kg, and that in group receiving WHO's Formula was 1.88 ± 0.16 kg. For body height, the highest average difference in body height increase before and after treatment was found in group receiving Hight Nutritional Food, 0.39 ± 0.23 cm, the lowest in WHO's Formula group 0.26 ± 0.26 cm, and in Modisco group 0.37 ± 0.18 cm. The highest average difference of Z-score pretest and posttest using body weight to age index (BW/A) was found in group receiving Hight Nutritional Food, 1.43 ± 0.28 and the lowest was found in Modisco group, 0.95 ± 0.38 , and that in WHO's Formula was 1.38 ± 0.23 .

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This study showed that in the management of underfives with malnutrition, it should be considered to provide macronutrient and micronutrient containing diet to obtain a better result in the improvement of nutritional status in underfives, particularly during rehabilitative phase.

Keywords : nutritional status, Modisco, WHO's Formula, High Nutritional Food.