

## LAMPIRAN

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Research Article

### Perbandingan Efektivitas Terapi Zink dengan Tanpa Zink Pada Pasien Diare Anak Rawat Inap Di RSD Idaman Kota Banjarbaru

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#### ABSTRAK

Diare merupakan masalah utama kesehatan masyarakat, WHO dan UNICEF merekomendasikan penatalaksanaan diare pada pasien anak dengan penambahan suplemen zink. Penelitian ini bertujuan untuk mengetahui perbandingan efektivitas terapi Zink dengan Tanpa zink terhadap pasien anak di rawat inap rumah sakit Idaman Banjarbaru. Metode penelitian menggunakan dekriptif cross sectional dengan studi retrospektif. Penelitian ini menggunakan 2 kelompok yaitu kelompok I, pasien yang mendapatkan terapi standar tanpa diberikan zink, kelompok II, pasien yang mendapatkan terapi standar dengan pemberian zink. Hasil penelitian menunjukkan bahwa rata-rata lama waktu diare pada kelompok I selama 3 hari dibandingkan dengan kelompok II selama 4.4 hari. Hasil Spss menyatakan bahwa terdapat perbedaan yang signifikan antara kelompok I dan kelompok II ( $p < 0,05$ ).

Kata kunci : Diare, Zink, tanpa Zink

#### ABSTRACT

Diarrhea is a major public health problem, WHO and UNICEF recommend management of diarrhea in pediatric patients with the addition of zinc supplements. This study aims to determine the comparison of the effectiveness of Zink therapy with no zinc on pediatric patients inpatient in Banjarbaru ideal hospital. The research method uses cross sectional descriptive with a retrospective study. This study used 2 groups, group I, patients who received standard therapy without zinc, group II, patients who received standard therapy with zinc. The results showed that the average length of time for diarrhea in group I was 3 days compared to group II for 5 days. The Spss results stated that there were significant differences between group I and group II ( $p < 0.05$ ).

Keyword: Diarrhea, Zink, Without Zink

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Original Research Article

**Efficacy of zinc therapy in acute diarrhea in children**

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**ABSTRACT**

**Background:** Diarrhoea is a major public health problem in developing countries. An estimate of 1.5 billion episodes of diarrhoea occurs each year and 3 million children under the age of 5 years die due to diarrhoea. Its effect is particularly devastating on children below 2 years of age, with eighty percent (80%) of deaths due to diarrhoea occurring during the first 2 years of life. Diarrhoeal diseases constitute 18% of under five deaths in Asia-Pacific countries.

**Methods:** The present study was carried out in Anil Neerukonda hospital, Visakhapatnam from July 2015 to July 2017 over a period of 2 years. A detailed clinical study of 100 children between the age group of 6 months to 5 years with acute diarrhoea was done. Zinc was given to 50% of cases and was not given to the rest of 50%. Duration of hospital stay (in days) and duration of diarrhoeal episodes (in days) were compared in both the groups.

**Results:** Incidence of acute gastroenteritis was maximum below 2 years of age (77%). Patients administered with Zinc had significantly less duration of hospital stay 3.35 days vs. 5.34 days (in patients who were not administered zinc) with t=8.170 and a strongly significant p<0.001.

**Conclusions:** Incidence of acute gastroenteritis is maximum below 2 years of age. Patients in zinc group had significantly less duration of hospital stay and less proportion diarrhoeal episodes on follow up compared to the non-zinc group.

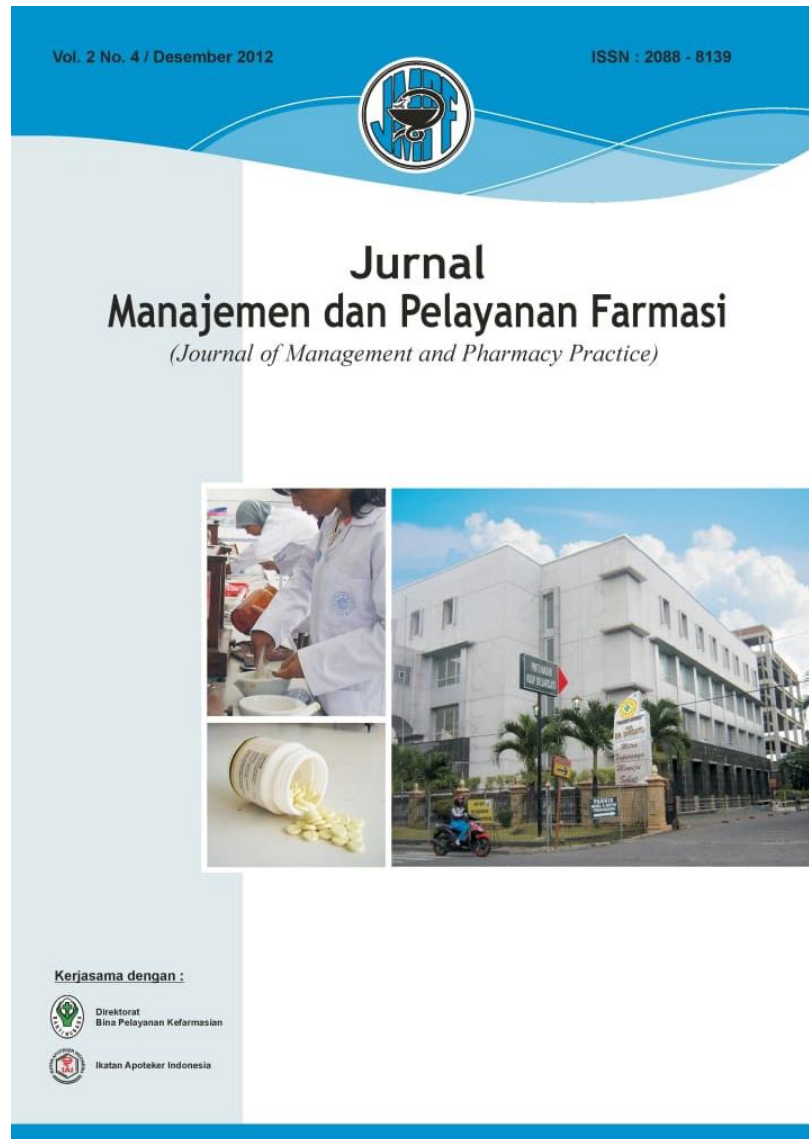
**Keywords:** Acute gastroenteritis, Diarrhoea, Zinc

**INTRODUCTION**

Diarrhoea is a major public health problem in developing countries. An estimate of 1.5 billion episodes of diarrhoea occur each year and 3 million children under the age of 5 years die due to diarrhoea. Its effect is particularly devastating on children below 2 years of age, with eighty percent (80%) of deaths due to diarrhoea occurring during the first 2 years of life.<sup>2</sup>Diarrhoeal diseases constitute 18% of under five deaths in Asia-Pacific countries.<sup>3</sup>Accurate data on the global extent of the problem of diarrhoeal diseases are difficult to obtain, but an analysis of the findings of 27 active surveillance studies

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3. **Jurnal Manajemen dan Pelayanan Farmasi volume 2 Nomor 4 Desember 2012. Analisis Efektivitas Dan Biaya Penggunaan Zink Pada Anak Dengan Diare Akut Di Rumah Sakit PKU Muhammadiyah Yogyakarta Tahun 2011. ISSN : 2088-8139**



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**ANALISIS EFEKTIVITAS DAN BIAYA PENGGUNAAN ZINK PADA ANAK DENGAN DIARE AKUT DI RUMAH SAKIT PKU MUHAMMADIYAH YOGYAKARTA TAHUN 2011***THE EFFECTIVENESS AND COST ANALYSIS OF ZINC TREATMENT ON THE CHILDREN WITH ACUTE DIARRHEA IN PKU MUHAMMADIYAH YOGYAKARTA HOSPITAL IN 2011*Sudewi Mukaromah Khoirunnisa<sup>1)</sup>, Tri Murti Andayani<sup>2)</sup>, Inayati<sup>3)</sup>

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**ABSTRAK**

Penyakit diare merupakan salah satu penyebab kematian kedua di dunia pada anak dan biaya medis untuk menangani diare cukup tinggi. WHO dan UNICEF merekomendasikan penggunaan zink untuk penanganan diare pada anak. Penelitian ini bertujuan untuk menilai pengaruh pemberian suplemen zink terhadap durasi diare, lama rawat, dan frekuensi diare, serta mengetahui besarnya biaya medis langsung pada pasien yang mendapatkan zink untuk penanganan diare.

Penelitian ini mengikuti rancangan deskriptif non eksperimental. Data diambil secara retrospektif dari rekam medik dan bagian keuangan di Rumah Sakit PKU Muhammadiyah Yogyakarta. Subjek penelitian adalah pasien anak berumur 1 - < 15 tahun yang menderita diare akut, menggunakan antibiotik, tanpa penyakit lain, dan dirawat inap selama periode 1 Januari hingga 31 Desember 2011. Jumlah sampel yang memenuhi kriteria inklusi yaitu masing-masing 67 pasien pada kelompok zink dan kontrol. Data yang dianalisa meliputi lama diare di rumah sakit, lama rawat inap, frekuensi diare, dan besarnya biaya pengobatan. Analisis data dilakukan secara deskriptif kuantitatif dan statistik untuk membandingkan rata-rata variabel antara kedua kelompok.

Hasil penelitian menunjukkan bahwa kelompok yang mendapatkan zink memiliki durasi diare yang lebih singkat ±0,45 hari ( $p<0,05$ ), lama rawat lebih singkat ±0,09 hari ( $p>0,05$ ) dan memiliki frekuensi diare yang lebih rendah pada hari ke-2 hingga ke-4 perawatan ( $p<0,05$ ). Dari analisis biaya, didapatkan rata-rata biaya pengobatan total pada kelompok zink lebih rendah dibandingkan kelompok kontrol ( $p<0,05$ ) yaitu sebesar Rp. 1.155.407, namun belum dapat dikatakan penggunaan zink efektif. Pemberian zink efektif dalam menangani diare akut pada pasien anak yang dirawat inap.

Kata kunci: zink, diare akut, efektivitas, biaya medis langsung

**ABSTRACT**

Diarrhea is the second leading cause of death among children in the world and medical cost to deal with diarrhea is significantly high. WHO and UNICEF recommend the use of zinc to treat diarrhea on children. This research was aimed to assess of diarrhea the influence of giving zinc supplement on the duration, length of stay and frequency, and to identify the amount of direct medical cost borne by the patient who used utilizing zinc in order to treat diarrhea.

This research was conducted with non-experimental descriptive design. Data were taken retrospectively from medical record and financial office of PKU Muhammadiyah Yogyakarta Hospital. The research subjects were child patients aged 1 - < 15 years old suffering from acute diarrhea, used antibiotic, had no other diseases, and treated as inpatient during the period of January 1 until December 31<sup>st</sup> 2011. The number of samples that met the inclusion criteria were 67 patients for each zinc and control group. The data were analyzed based on the characteristics of patients, diarrhea duration in the hospital, length of stay, diarrhea frequency and amount of medical cost. Data were analyzed descriptive quantitatively and statistically to compare the means of variables between both groups.

The research result indicated that the group receiving zinc had shorter diarrhea duration of ±0.45 day ( $p<0.05$ ), shorter length of stay of ±0.09 day ( $p>0.05$ ), and lower diarrhea frequency from the second to the fourth day of the treatment ( $p<0.05$ ). In regard to cost analysis, the total medical cost of zinc group was lower than that of control group ( $p<0.05$ ) accounts for IDR. 1,155,407. However, it could not be concluded that the use of Zinc was effective. The use of zinc was effective in treating acute diarrhea on inpatients children.

Key words: zinc, acute diarrhea, effectiveness, direct medical cost

**PENDAHULUAN**

Penyakit diare merupakan penyebab kematian kedua di dunia pada anak di bawah umur 5 tahun. Terdapat 1 dari 5 anak meninggal dengan jumlah 1,5 juta pertahun yang disebabkan karena diare. Biaya medis langsung untuk penanganan diare pada anak juga cukup tinggi

yaitu \$3,90 untuk tiap episode. Pada Mei 2004, WHO dan UNICEF telah merekomendasikan penggunaan *Oral Rehydration Salt* (ORS) dan suplemen zink untuk penanganan diare pada anak (Gregorio dkk, 2007; UNICEF/WHO, 2009; Walker dkk, 2009).

Beberapa penelitian telah mengungkapkan efektivitas zink dalam mengobati diare. Pemberian suplemen zink 20mg per hari (10 mg per hari untuk bayi kurang dari 6 bulan) selama 10-14 hari pada

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