

INTISARI

Anemia merupakan suatu keadaan kekurangan jumlah sel darah merah, yang bertugas membawa oksigen ke otak dan ke seluruh organ serta jaringan tubuh. Salah satu jenis anemia yang sering terjadi adalah anemia defisiensi besi. Bayi umur 6-24 bulan rentan mengalami anemia defisiensi besi sehingga akan menyebabkan pertumbuhan dan perkembangan kecerdasan anak terhambat. Bayi umur 6-24 bulan disarankan untuk mendapat asupan besi 7-8 mg per hari. Berdasarkan hal tersebut, perlu dilakukan penelitian untuk membuktikan kesesuaian kadar besi yang terkandung dalam sereal makanan bayi dan untuk memberikan informasi tentang validitas metode spektrofotometri visibel pada penetapan kadar besi dalam sereal makanan bayi dengan pereaksi o-fenantrolin.

Penelitian ini merupakan penelitian non eksperimental deskriptif menggunakan metode spektrofotometri visible dengan pereaksi o-fenantrolin. Ion besi (II) bereaksi dengan o-fenantrolin membentuk kompleks $\text{Fe}(\text{fenantrolin})_3^{2+}$. Serapan maksimum kompleks ini diukur pada panjang gelombang 510 nm.

Hasil penelitian menunjukkan rata-rata kadar besi dalam sereal makanan bayi pada merek X adalah sebesar $(33,29 \pm 1,43) \% \text{ AKG}$; merek Y $(34,99 \pm 1,14) \% \text{ AKG}$; dan merek Z $(39,11 \pm 1,54) \% \text{ AKG}$. Berdasarkan analisis hasil penelitian nilai *recovery*, koefisien variasi dan linearitas, diperoleh hasil bahwa metode spektrofotometri mempunyai validitas yang baik untuk menetapkan kadar besi dalam sereal makanan bayi.

Kata kunci : besi, sereal, o-fenantrolin, spektrofotometri visibel

ABSTRACT

Anemia is a condition with lack of erytrosit, which will brings oxygen to brain, all organs and tissues of the body. One type of anemia which most happened is iron deficiency anemia. Infants, whose the age between 6 and 24 month, are identified as most at risk of being iron deficiency anemia so that children growth and development of their intellegence will be obstructed. Infants, whose the age between 6 and 24 month, are suggested to have iron intake 7-8 mg/day. Based on that case, a research that as able to prove conformity the of iron content in infant cereal foods in the label package is needed. Moreover, it is to inform about validity of the spectrophotometry method at determination of iron infant cereal food using *o*-phenanthroline reagent.

This research was a non experimental descriptive research using visible spectrophotometer with *o*-phenanthroline reagent. Ion Fe^{2+} react with *o*-phenanthroline to form $\text{Fe}(\text{fenantrolin})_3^{2+}$ complex. Maximum absorbance of this complex was measured at wavelength 510 nm.

The results of the research showed the mean of iron content in infant cereal foods brand X was $(33,29 \pm 1,43) \% \text{ AKG}$; brand Y was $(34,99 \pm 1,14) \% \text{ AKG}$; and brand Z was $(39,11 \pm 1,54) \% \text{ AKG}$. Based on the analysis result, the value of recovery, coefficient variation, and linearity showed that spectrophotometry method had a good validity to determinate iron in infant cereal foods.

Keywords : iron, cereal, *o*-phenanthroline, visible spectrophotometry