CONCLUSION

The result showed that 47 of 48 neonates (98%) had the initial peak concentrations within the therapeutic levels. Likewise, the maintenance peak concentrations after the 3rd and 6th doses were within the therapeutic range in 38 of 40 neonates (95%) and 15 of 15 neonates (100%), respectively. The trough concentrations were within the safety range of <2 ug/ml in all neonates. The renal function represented by the BUN and serum creatinine concentrations of the neonates were within the normal ranges. In addition, no other adverse drug reaction related to gentamicin therapy was found. Therefore, it was concluded that Neofax regimen was appropriate for Thai neonatal patients. Pharmacokinetic parameters calculated in this study showed that the preterm neonates (GA $\leq$ 37 weeks) had a lower gentamicin CL, a slightly lower V_d, and a longer $t_{1/2}$ when compared to the term neonates (GA > 37 weeks). We also found that the GA, BW and BSA had a weak correlation with all pharmacokinetic parameters of gentamicin.