LETTER TO THE EDITOR

The stethoscope and the transfer of Bacteria in the neonatal nursery

Dear Sir,

In many Malaysian neonatal nurseries, the number of stethoscopes available is often insufficient to cater for use on the large number of babies on a one-to-one basis. In our neonatal unit, the practice of disinfecting the common-use stethoscope with 70% alcohol before its immediate use on each patient has been introduced to prevent bacterial transmission, as was recommended by several authors.[1,2,3] In order to convince all our staff on the importance of this practice, we carried out a study to determine the effect of disinfection of the common-use stethoscope in the prevention of spread of bacteria in our nursery.

During this study, the examiner (NYB) washed her hands and forearms with a 4% chlorhexidine-detergent solution (Hibiscrub) and water before examining each baby. The hands and forearms were then dried under a hand dryer. The common-use stethoscope, suspended by its 'arms' from the neck of the examiner, was then disinfected (with cotton balls soaked in 70% alcohol) in the following areas: the tubing and its T-junction, the bell and diaphragm. Care was taken to avoid direct contact by the examiner's hands with the pre-disinfected stethoscope. After disinfection, the stethoscope was prevented from coming into contact with the examiner's gown, the cot or incubator of the baby to be examined. Swabs were taken for culture from the bell and diaphragm of the disinfected stethoscope and the precordium of the baby to be examined. The examiner then auscultated the precordium of the baby with the stethoscope. On completion of auscultation, swab samples were immediately taken from the patient's precordium, the bell and diaphragm of the stethoscope. The examiner then washed her hands and forearms. The whole procedure was repeated on 25 babies.

During the study, bacteria were cultured from 21/26 (80.7%) of the swabs taken immediately from the stethoscope after auscultation. These organisms were of the same species cultured from the precordia of the babies just examined. After disinfection with 70% alcohol, no organisms were isolated from 22/26 (84.6%) of the swabs taken from the disinfected stethoscope. Eight neonates had different species of bacteria cultured from their precordia after auscultation. The most probable explanation for this occurrence was that these bacteria were transferred to the neonates' precordia by the hands of the examiner which were contaminated by the 'arms' of the stethoscope during the process of adjusting the stethoscope's ear pieces into her ears. The contamination occurred because the 'arms' of the stethoscope were not included in the disinfection procedure.

This study showed that the common-use stethoscope could transfer organisms among patients examined. Besides the bell, diaphragm and tubing, the 'arms' of the stethoscope should also

be disinfected to eliminate the organisms 'picked up' from the previous patients before being used on the next baby.

Thank you.

Yours sincerely,

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References

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