Determining the Effectiveness of the Pneumonia Case Management using the IMCI classification among hospitalized Malawian children: a secondary data analysis

ACKNOWLEDGEMENTS

I wish to express my sincerest thanks to my awesome supervisor, Dr. Tim Colbourn for his patience, time and wisdom in guiding me throughout this research project. I would also like to thank Dr. Rodney Reynolds of UCL and Dr. Matthias Borchert of Charité-Universitätsmedizin Berlin for their assistance and feedback during the thesis proposal phase of this project.

My appreciation also goes to Ms. Regina Keiper, Ms. Alison Gilry and Ms. Paloma Garcia-Paredes for all their administrative help and for making my stay in Charité and UCL smooth and worthwhile.

A deep gratitude also goes to the Erasmus Mundus consortium for giving me the opportunity to study this course and for the support that I have received in the past year.

Finally, I would like to thank my parents, sisters, friends, and my partner, Andreas Klingel for their love and inspiration that made these past few months bearable.

ABSTRACT

Background

Pneumonia continues to claim the lives of children in the African region. Interventions that address this problem have been made to reduce mortalities from this disease. This study sought to find the role of the IMCI case management as a measure of reducing childhood pneumonia deaths in the Malawian setting.

Methods

Secondary analysis of existing data was done among 113,154 Malawian children admitted for pneumonia from 2001-2012. IMCI or the Integrated Management of Childhood Illness algorithm and the variables *Signs*, *Classification*, *Treatment* and *Outcome* were analyzed using logistic regression models.

Results

Severe and very severe pneumonia signs were the variables that most accurately predicted its corresponding classification with an OR of 33.991 (p=0.000, CI: 27.048-42.716) and 33.477 (p=0.000, CI: 32.158-34.849) respectively, and both were significantly associated with the outcome (death) (OR=7.773 and OR=5.683). Both pneumonia classifications (2-59months) were also found to be correctly associated with its recommended treatment. Also, neurologic danger signs (OR=3.818, p=0.000) and feeding danger signs (OR=4.492, p=0.000) had the highest odds of death in children 2-59 months and infants <2months respectively. In terms of therapeutic regimens, co-trimoxazole was noted to have an OR=2.098 at p=0.000 in its relationship with death for non-severe pneumonia.

Conclusion

The effectiveness of the IMCI case management is clearly dependent on the competency of its health workers who are implementing the guidelines. However, support for regular health worker training will still depend on the advocacy of the Malawian government.