Abstract

Background

Zoonoses, which are diseases that are naturally transmitted between vertebrate animals and humans have comprised a big portion of a surge of new emerging human infectious diseases. Diagnosis of these zoonoses and later on reporting on them immensely depend on the level of understanding of the diseases involved. Like most resource limited countries in sub-Sahara Africa, Zambia has not been spared from the surge of neglected zoonotic diseases. In the recent past, Zambia has had different and recurrent zoonotic outbreaks including that of anthrax and plague. Endemicity of rabies, trypanosomiasis and bovine tuberculosis have also been reported. Despite these reports, there is limited data on occurrence of zoonotic infections in humans. There is also little information regarding the experiences, knowledge and awareness of medical practitioners with respect to zoonotic diseases. Thus, the objective of this study was to assess and identify the knowledge of zoonoses among medical practitioners at the University Teaching Hospitals (UTH) of Lusaka, Zambia as an indicator for capability to diagnose and treat appropriately.

Methods

Using a mixed method cross-sectional survey study design, a semi-structured questionnaire and in-depth interviews were administered to medical doctors at the Children`s and Adult Hospitals of the University Teaching Hospital in Zambia to establish the basic knowledge of zoonoses causes, transmission, clinical signs and on rabies and anthrax as specific zoonotic diseases. For the quantitative data analysis, all the statistical analysis was done in Microsoft R Excel and Stata/IC 15.1 for MacBook Air while using the emerging themes in relation to zoonoses knowledge for the analysis of qualitative data.

Results

Out of the 163 who agreed to participate in this study, 151 (92.64% response rate) completed questionnaires. The results show that most respondents from both the Adult (54 respondents, 51.3%) and Children`s (29 respondents, 63.04%) Hospitals scored poorly (< 50% score band) in the knowledge on general questions of zoonoses (mean score < 50%, 6.25/14 = 44.64%) while many scoring within the > 74% score band for the knowledge on transmission of zoonoses for both hospitals (80 respondents: 76.19% and 33 respondents: 71.74% respectively). For the knowledge on causes of zoonoses category, a higher number of respondents did score above 74% from the Adult Hospital (44 respondents: 41.90%) compared to those of the Children`s Hospital (13 respondents: 28.26%). On the other hand, more respondents scored in the 50% - 74% score band from the Children`s Hospital (23 respondents: 50% in both categories) than those of the Adult Hospital (40 respondents: 38.10% and 44 respondents: 41.90%) in both the knowledge on clinical signs of zoonoses, and that of rabies and anthrax respectively.

The overall mean score was 34.11, barely above 50 % mark (34.11/62 = 55.02%) and indicative of a low score generally, and on the overall.

With multivariate analysis, it was observed that medical practitioners aged from 31 to 40years were 4.4 times (4.40 COR; 95% CI: 1.91 - 10.15, p – value = 0.001) more likely to have > 50% scores on knowledge of zoonoses than the 21 to 30 years old followed by those older than 40 years (3.33 COR; 95% CI: 1.24 - 8.94, p-value = 0.017). In terms of specialty, those specialized in internal medicine were 8.5 times (8.49 COR; 95% CI: 2.34 - 30.80, p-value = 0.001) more likely to have > 50% zoonoses knowledge scores than the general practitioners and other specialties while those who had practiced for 6 to 10 years had 5.6 more chances of possessing > 50% zoonoses knowledge scores (5.56 COR; 95% CI:1.79-17.16, p-value = 0.003) than the 0 to 5 years old and other service periods. Regarding the rank variable, consultants (5.14 COR; 95% CI: 1.34 – 19.72, p-value = 0.017) were 5.1 times more likely to possess somewhat good zoonotic knowledge than the resident medical officers followed by the registrars, 3.79 times (3.79 COR; 95% CI: 1.75 - 8.17). For the attendance to zoonotic patients (4.01 COR; 95% CI: 1.86 – 8.63), those who had attended to patients with zoonotic diseases were 4 times more likely to have better zoonotic knowledge scores than those who had never managed zoonotic diseases. Following adjustment into one logistic regression model for all the significant variables in the crude analysis towards good zoonotic knowledge, only attendance to zoonotic patients (2.74 AOR; 95% CI: 1.13 – 6.65) remained as the sole predictor of > 50% zoonotic knowledge scores of all the variables.

Conclusion

While the results show high knowledge scores in zoonoses transmission, the scores, averaging around 55% (34.11/62, n = 151) on the overall were on a lower side. Attendance to zoonotic patients consistently showed significant association with good zoonotic knowledge (2.74 AOR; 95% CI: 1.13 – 6.65). These findings on the overall indicate inadequate zoonoses knowledge among the medical practitioners at the Children`s and Adult Hospitals. This emphasizes a need for improved healthcare provider knowledge in the area of zoonoses so as to provide adequate and wholesome translation of knowledge into proper care of patients primarily and also on surveillance, diagnosis and reporting of zoonotic diseases.

Key words: Zoonoses, zoonoses knowledge, zoonoses diagnosis, medical practitioners