

ABSTRACT

Back Ground

Sri Lanka signed the Cartagena Protocol on Biosafety when it was first open to signatories in May 24, 2000. Laboratory services are an essential part of the entire health system and biosafety prevents unintentional exposure to pathogens and toxin. Laboratory staff are at high risk for infection due to direct contact with potential infectious agents and bio toxic material.

Objectives

To assess the biosafety precautions at laboratories and knowledge, attitudes practices among medical laboratory technicians on biosafety precautions (BSP) in selected government healthcare institutions in Colombo district Sri Lanka

Methods

A descriptive cross-sectional study was performed in selected government healthcare institutions in Colombo district Sri Lanka. The availability of BSP was assessed through a checklist based on direct observation. Knowledge, attitudes and practices among medical laboratory technicians (MLTs) (n=315) on Biosafety precautions was assessed using a pretested self-administered questionnaire.

Key areas of assessing the Knowledge comprised of basic knowledge on biosafety, biosafety level of working laboratory, aerosol formation, cleaning up spills, disease transmission, international color code of waste management and basic essentials requirements in laboratories to achieve biosafety. There are nine attitudinal questions to cover the attitudes related to BSP. Practices were assessed to ensure the level of adherence to BSP using clinical vignettes.

Results

MRI can be considered as having good standard in BSP (Cumulative score 89.26%). BSP were poor in DMH (43.16%), IDH (43.76%), JAPR (46.29%), BHH (49.42%) and LRH (49.52%), respectively. Lowest score had been obtained by CSTH (35.57%).

Majority of MLTs had excellent knowledge (97.3% n=257), favorable attitude (90% n=210) and satisfactory level of practices (90.3% n=250) on BSP.

Satisfactory knowledge on BSP is significantly high in MLTs with less than 20 years' experience (P=0.02). Unfavorable attitude were positivity associated with MLTs over 40 years of age (P=0.01). Unsatisfactory level of practices of MLTs are significantly associated with age more than 40 years (P=0.04) and the staff with no post graduate qualifications (P=0.04).

Conclusions

MRI is the only institution which showed good level of BSP (82.26%). The level of BSP in Colombo district was 52.8% showing urgent need of an intervention. 6 out of 14 institutions showed very poor level of BSP. The knowledge level on BSP reduced with advancing the service experience. Attitudes among workers depreciated with aging. The level of practices became poor on aging and not qualifying with post-graduation.

Recommendations

Establishment of biosafety committee, preparing standard operational practices (SOPs), and introduction of continues professional development and surveillance system have been identified as a major recommendation for proper establishment of BSP.

Key words

“Bio risk” “Biosecurity” “Biosafety”, “Knowledge”, “Attitudes”, “Practices”, “standard”,
“safety” “laboratory” and “Biosafety precautions”.