Introduction and objectives

Quality assurance is a vital component in biobanking to assure integrity and viability of samples. Although standards are established for biobanking in the western world, such guidelines are yet to be drafted and adapted to Sri Lanka.

Method

Sri Lankan Twin Registry Bio-bank (SLTR-B) was established in 2012 as a component of a large-scale study conducted by Institute for Research and Development.

Since there were no local quality assurance guidelines for bio-banking exist several international guidelines were adopted.

Whole blood was collected in sterile vacutainers and transported to the laboratory using passive containers. Following several performance assays a commercial purification kit was selected for DNA extractions.

DNA concentration and purity were determined by spectrophotometry, and integrity assessed by agarose-gel-electrophoresis. DNA and serum were stored as aliquots in cryo-vials. Samples were labeled using cryogenic-labels containing unique barcodes and identification numbers, and stored in -80°C.

Results

Whole blood was collected from 3483 participants of the main study. Poor quality DNA samples were removed during the quality checking process. DNA of 102 participants were not extracted and stored as they did not consent to this component. The SLTR-B contains 3483 samples of serum and DNA of 3360 participants for future research.

Conclusion

Biobanks hold the key to future breakthroughs in scientific research.

Quality assurance practices play a major role in maintaining integrity and viability of samples for downstream application.

Therefore, establishing of national standards is paramount to build high quality research infrastructure in the country.