

## Evaluation of the filmarray blood culture identification 2 panel compared to direct MALDI biotyper sepsityper identification for rapid pathogens identification in pathology department, Hospital Sungai Buloh

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### ABSTRACT

**Introduction:** Early pathogen identification is crucial for making a conclusive diagnosis and enabling focused antibiotic treatment. Technological advances allow for faster diagnosis and de-escalation of antibiotic medication. This study compares FilmArray blood culture identification 2 panel (BCID 2) against MALDI biotyper sepsityper (MBT Sepsityper). **Materials and Methods:** Twenty-five positive blood culture bottles from HSgB patients were chosen for BCID 2 and MBT Sepsityper analysis. Samples consists of 10 gram-negative, 10 gram-positive bacteria, 3 yeasts and 2 mixed gram stain samples. The positive blood culture samples were examined between June 1st and July 16th 2022. **Results:** We compared a culture-based approach to the BCID 2 and MBT Sepsityper in analyzing 27 blood culture-positive microorganisms from 25 blood stream infection (BSI) occurrences. BCID 2 was able to identify 26 (96.3%) out of 27 microorganisms as compared to MBT Sepsityper which identified 20 (74.1%) out of 27. One unidentified organism by BCID 2 was not listed in the system's target organisms and another was only detected up to species level by the BCID 2 system. BCID also identified 100% of polymicrobial blood cultures from 2 culture bottles, with an additional organism detected. In contrast, MBT Sepsityper identified only 2 (50%) out of 4 polymicrobial organisms. BCID 2 identified 5 (83%) antimicrobial resistance genes (AMR) out of 6 multidrug resistant organism (MRO) isolated. **Conclusion:** The FilmArray BCID 2 panel proved to be advantageous in establishing a definitive diagnosis to allow early targeted antimicrobial therapy, rapid identification of pathogen and AMR genes detection.

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## Cognitive stimulation therapy in mild to moderate dementia in Hospital Sungai Buloh

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### ABSTRACT

**Introduction:** It is expected that the global burden of dementia will continue to escalate worldwide. The non-pharmacological options are becoming increasingly recognized to complement medications. CST is an evidenced -based intervention for enhancing cognition and quality of life in people with mild to moderate dementia. CST program is offered as Geriatric day care services in Hospital Sungai Buloh since August 2018. This cross-sectional study aims to evaluate the efficacy of CST at our setting. **Materials and Methods:** The CST treatment involves 14 sessions of themed activities, running twice weekly. It is carried out over 7 weeks, led by trained nurses and an occupational therapist. The clinical effectiveness of CST were assessed by cognitive functions (Mini Mental State Examination-MMSE), communication (Holden communication scale-HCS) and quality of life (Quality of Life in Alzheimer's Disease-QOL-AD). Depression (Geriatric Depression Scale-GDS), activities of Daily Living (Modified Barthel Index-MBI, Lawton) and dementia behavioral functioning (Neuropsychiatric Inventory-NPI) were also assessed. **Results:** In this study, 49 participants were recruited with a mean age of 71.6 years old where 60% were male. 46% were Malays, followed by 29% Indians and 25% Chinese. Paired t-Test revealed significant improvement in quality of life ( $p < 0.00$ ) communication ( $p < 0.00$ ) and behavioural functioning (NPI), ( $p < 0.00$ ) Significant improvement shown across the 3 communication subcategories: conversation ( $p < 0.00$ ), awareness and knowledge ( $p < 0.001$ ); and communication ( $p < 0.00$ ) **Conclusion:** CST appeared to benefit communication, behavioural functioning, and quality of life in the older persons with mild to moderate dementia. This provides evidence to support the use of CST as a routine program to complement patients with mild to moderate dementia in Hospital Sungai Buloh.

**Keywords:** CST, dementia, cognitive stimulation therapy