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ABSTRACT

In this work, a novel adaptive hybrid method called PSOTS for solving multiple sequence alignment (MSA) problem is proposed. The developed approach is based on two metaheuristics: particle swam optimization (PSO) algorithm and tabu search (TS) technique. In our approach, PSO is exploited in global search, but it is easily trapping into local optimum and may lead to the premature convergence. TS is incorporated as local improvement approach to overcome local optimum problem and intensify the search in local regions to improve solution quality. Numerical results on Bali BASE benchmark have shown the effectiveness of the proposed method and its ability to achieve good quality solutions comparing.

Keywords- hybrid method; multiple sequence alignment; PSO; TS; BaliBASE benchmark.

Gayan Kanchana Wijesinghe
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Gayan K. Wijesinghe
Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka
wijesinghe89@yahoo.com

Thilini A. Jayarathna
Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka
thilinianupamajayarathna@gmail.com

Chinthika. P. Gunasekara
Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka
chinthika@sjp.ac.lk

Neluka Fernando
Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka
fneluka@sjp.ac.lk

Nilwala Kottegoda
Department of Chemistry, Faculty of Applied Sciences, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka
nilwala@sjp.ac.lk

Manjula M.Weerasekera
Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka
mmweera@sjp.ac.lk

ABSTRACT

Aims: Biofilms are ubiquitous life forms and their pathogenicity is dictated by the constituents of the environment. We evaluated the efficacy of three culture media

	on biofilm formation of Candida species. Role of sucrose, glucose, saccharine, and inhibitory effect of ayurvedic oral treatments were investigated. **Methods: A 96-well plate was inoculated using 106cell/ml of C.albicans, C.tropicalis and 1:1 mixed species and growth rates were determined by measuring the absorbance every 2hrs with the presence of three culture media(Yeast Nitrogen Base (YNB) supplemented with 100 mM glucose, Sabouraud Dextrose Broth (SDB) and RPMI 1640), sweeteners (5 and 10%: glucose, sucrose and saccharin). Adhesion and growth rates were quantified using MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) and Crystal Violet (CV). Inhibitory effect of 0.2% chlohexidine, aqueous extracts of bark of Mimusops elengi and Tripala (mixture of fruits of Emblica officinalis, Terminalia bellirica and Terminalia chebula) were investigated against both sessile and planktonic cells. Scanning electron microscope was performed to assess the biofilm architecture with different treatments.** **Results: All three biofilms showed maximum adhesion with RPMI 1640. SDB promoted the planktonic cell growth. Glucose and sucrose (5%) had the maximum effect on adhesion of all three biofilms. Planktonic cell growth was highest with 5% glucose while biofilm growth was promoted with 5% sucrose. 0.2% chlorhexidine significantly reduced the biofilm formation within 30 seconds of exposure. Aqueous extract of Triphala (65.0 mg/ml) was effective against planktonic cells while Mimusops elengi had no inhibitory effect.** **Conclusion: RPMI 1640 effectively facilitate in-vitro biofilm formation of Candida. Our data indicate that researchers should pay more attention on standardization of growth media for cross comparison purposes as sessile cells act differently to the planktonic cells. Further sucrose promotes biofilm formation of Candida compared to glucose and saccharine. Triphala had an inhibitory effect whereas extracts of Mimusops elengi did not show any inhibitory effect.** **Key words- Candida biofilms, Culture media, Sugars, Herbal mouth rinses, 0.2% chlorhexidine gluconate**
Nazim H. Baluch **GICHNDM1613061**	**QUALITY IN HEALTH CARE: Medic IG Holdings' Odyssey** **Nazim Baluch,** **School of Technology Management and Logistics - COB Universiti Utara Malaysia, 06010 Sintok, Kedah, Malaysia nazimbaluch@uum.edu.my** **Ahmad Shabudin Ariffin,** **School of Technology Management and Logistics - COB Universiti Utara Malaysia, 06010 Sintok, Kedah, Malaysia** **Shahimi Mohtar,** **School of Technology Management and Logistics - COB Universiti Utara Malaysia, 06010 Sintok, Kedah, Malaysia** **ABSTRACT** **Health care and education have been the largest components of Malaysia's budgetary expenditure. Consequently, the government is attempting to shift the burden of health care to the private sector, thereby decreasing its expenditure. Hence, there was a need to review the current business model with the intent of transforming MIGH-ANSH service quality in order to ensure competitiveness**

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