Table 1: Collection of soil sample for isolation of Actinomycetes

S.No.	No of Isolates	Symbol of strains	Collection area
1	57	MB1-MB57	Marina Beach
2	40	BN1-BN40	Besant Nagar Beach
3	17	NK1-NK17	Neelankarai Beach

Table 2: Antimicrobial activity against human pathogenic Bactria

Isolate Strain	Diameter of zone of Inhibition (mm)		
	E.coli	*S. aureus*	*P. aeruginosa*
MB16	08	11	10
MB20	08	08	10
MB22	13	04	09
MB36	07	00	09
MB41	14	07	08
MB45	08	09	00
MB49	07	08	09
MB53	08	09	07
MB54	00	07	08
BN07	09	00	09
BN14	07	12	06
BN17	08	09	09
BN22	07	05	05
BN30	06	07	00
BN34	07	08	09
BN37	08	08	07
BN39	08	00	05
NK05	09	10	07
NK07	07	09	06
NK11	00	05	06
NK13	08	00	07
NK16	07	08	00

Discussion

Antibiotics are the most important bioactive compounds for the treatment of infectious diseases. Due to the emerging multi-drug resistant pathogens, there is a basic challenge for effective treatment of infectious diseases. Since the burden of multidrug-resistant pathogens in the world, there has been increasing interest in searching effective antibiotics from soil actinomycetes in diversified ecological niches [**13**]**.** In the present study, the screening of actinomycetes in beach soils of Chennai using cross streak methods indicated that twenty two out of 114 actinomycete isolates showed potential antimicrobial activity against one or more test bacteria. The result showed the zone of activity of 14 mm being the highest (MB41). Observation of clear inhibition zones around the wells on the inoculated plates is an indication of antimicrobial activities against test organisms from actinomycetes. According to the present result, MB41 showed 14 mm inhibition zone against E. coli which had the greatest inhibition zone when compared to other isolates. These isolate may be used in the application of treatment of different pathogenic microorganisms. Hence it is suggested that intensive studies on the action-bacterial diversity of the session to establish the rich actinomycetes diversity should be undertaken and this could put an important input in pharmaceutical industries.

CONCLUSION

The findings of the study may be useful to the future investigators to identify alternative and new bioactive metabolites like antibiotics to treat the resistant human pathogens.

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