

ABSTRACT

The callus induction of *Mansoa alliacea* L. was accomplished via supplementation of additives with promising efficacy concluded by the combinations of BAP, IBA, CH and L-glutamine, while good prospects were reported by combinations of BAP and IBA, CM with BAP and NAA as well as CH with BAP. Moreover, the combination of BAP and IBA with addition of adenine sulphate had demonstrated average capacity for callus induction. It was reported that alone 2,4-D, BAP, KIN, or in combinations such as BAP and IAA, BAP and 2,4-D, BAP and KIN had rendered no activity. The significant potential for direct or indirect regeneration was not recorded owing to the accumulation of phenolics. However, multiple shooting and leaves emergence were recorded on MS medium fortified with BAP and CM. The maximum antibacterial efficacy was put forward by ethanol extract of the plant (33 ± 1.21 mm) against *E.coli* than other clinical isolates used. Least sensitivity was shown by *E.col*, *S. aureus*, *B. subtilis* and *P. aeruginosa* strongly tolerated n-hexane macerate of callus. The antimycotic inquisition had revealed that more susceptibility was exhibited by *A. niger* against ethanol extract of plant tissue while least zones of inhibition were produced by n-hexane extract of callus in comparison to *F.solani*. The evaluation of MIC was in agreement with zones of inhibition obtained in all test cases. During exploration of antioxidant prospects, the utmost antioxidant projections were displayed by chloroform macerate of plant tissue reporting 73.47 ± 1.43 % (at 500 $\mu\text{g/ml}$), 113.49 ± 1.87 , 92.30 ± 1.0 and 93.20 ± 1.23 respectively in comparison to least activity presented by n-hexane macerates of callus with values of 6.32 ± 0.69 (at 60 $\mu\text{g/ml}$), 15.51 ± 0.19 , 13.73 ± 0.67 and 6.19 ± 0.78 correspondingly during DPPH, TPC, TAA and FRAP appraisal. It can be concluded that the plant tissues and callus cultures hold promising ethnopharmacological efficacy.