- Present study aims to standardize the wild edible fruit, *Pyrus pashia* pharmacognostically and phytochemically, since natural products still remain as one of the best reservoirs of new drug moieties. Moreover standardization parameters evaluated can be beneficial for documentation and preparation of monograph.
- The results from qualitative and quantitative estimation showed the extract of *Pyrus pashia* to be highly rich in polyphenols. Moreover chrysin was isolated for the first time in *P.pashia.*
- EPP 200 and 400 mg/kg p.o. exhibited potent anticonvulsant activity against PTZ and MES models of convulsion, Moreover chrysin 5 and 10 mg/kg p.o. showed protection against PTZ induced model.
- In addition, EPP and chrysin did not exhibit sedative like behavior in experimental rodents suggesting its safe profile.
- Anticonvulsant action of EPP and chrysin can again be correlated with the increased BDNF expression and down regulation of apoptotic biomarkers, caspase 3, caspase 9 and cytochrome c and upregulation of gephyrin.
- EPP and chrysin (200 and 5 mg/kg; *p.o.*) exhibited similar therapeutic profile to that of DZP-1 mg/kg; *i.p.* in the PTZ-induced cognitive and behavioural impairments. However EPP and chrysin does not alter the memory function.
- Above all, both extract and its major bioactive component showed almost equal efficacy in terms of reduction in seizure severity, in kindling model of epilepsy indicating the fact that anticonvulsant activity of the EPP may be due to chrysin.

- Above findings reveal that EPP and chrysin possess significant anticonvulsant activity and the outcomes further confirmed the involvement of GABAergic mechanism behind the anticonvulsant activity of EPP.
- These observations emphasize the fact that EPP could be considered as a potential and alternative therapeutic option in the management of epilepsy.