Exploration of cardio protective potential of underutilised Kashmiri quince fruit (C*ydonia oblonga* Miller) peel and leaf by comparative *in vitro* phytochemical and anti-oxidant analysis with FTIR and HPTLC investigation for Nutraceutical Development

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Abstract: *Cydonia oblonga* popularly known as Quince fruit is a native of Iran and Turkey. In India it's not found far and wide, its distribution is limited to J&K and few parts of Himachal Pradesh. Quince popularly known as "Bamchount" in Kashmir is an underutilised fruit which is promulgated to have the potential of a super fruit. The study is envisaged for the comparison of *in vitro* investigation of different solvent extracts of quince peel and leaf along with the FTIR and HPTLC analysis. Quince Peel and Leaf was extracted using different extraction solvents and extraction methods. The extracts dried via Rotary evaporation were subjected to *in vitro* investigation using standard protocols. The FTIR spectroscopic analysis was done using FTIR spectroscopy method. The HPTLC studies were carried out on pre-coated silica aluminium sheet $60F_{254}$ using HPTLC system. All experiments were performed in triplicates ± SD ($p< 0.05$). One-way ANOVA was performed using software SPSS version 17. The study revealed that the ethanolic extract of quince leaf and the hydro-alcoholic extract of quince peel showed better phytochemical and anti-oxidant properties compared to the other extracts and the activity was found to be dose dependent. The FTIR spectroscopic studies confirmed the presence of alcohols, phenols and carboxylic acids which showed major peaks. The HPTLC revealed the presence of quercetin and rutin. The eminence of phytochemicals in endorsing good health by its antioxidant activity is well recognized. So it could be concluded that Quince can be foreseen to be a potential nutraceutical candidate for cardiac disease management.

Biography:

Entesar Hanan is an experienced Doctoral Researcher with a demonstrated history of working in the utilities industry. Skilled in ISO 22000, Hazard Analysis and Critical Control Points (HACCP). Strong research professional post graduated from Jamia Hamdard. She is currently working as Senior Research Fellow (SRF) pursuing DST Inspire Fellowship.

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