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Novel protective effects of baicalin on high-glucose induced chick embryo malformation and its molecular mechanisms

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Baicalin, which is a traditional Chinese monomer isolated from a traditional Chinese tocolysis medicine - baikal skullcap root, has shown the ability of antioxygenation. Here, we investigated for the first time whether baicalin treatment could improve the high-glucose induced chick embryo malformation and uncovered its underlying mechanisms. In our study, we found certain concentration of baicalin did not affect the development of early chick embryo. The number of high-glucose induced heart tube and blood island malformation in chick embryos were decreased in baicalin treating. Western blot analysis of the experimental chick embryos revealed that GATA4 was inhibited, while LC3 α and C-caspase3 were increased following high glucose treatment. However, baicalin treatment could improve the expression of these genes. In addition, we confirmed that the baicalin could improve the cell survival through both antioxygenation and regulating autophagy in vitro. Therefore, our data indicated that baicalin could be a potential candidate for gestational diabetes induced malformation.

Meta-analysis of risk factors of suicidal phenomena in adolescents

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Suicidal phenomena (suicide attempts, deliberate self-harm and suicidal plans, threats and thoughts) are common in adolescents. Identification of factors associated with these phenomena could play an important role in the development of school or community-based prevention and intervention programs. Self-harm and suicide are major public health problems in adolescents, with rates of self-harm being high in the teenage years and suicide being the 3rd (for females) and 4th (for males) most common cause of death in young people worldwide. This study is to provide a summary of current knowledge about suicidal phenomena risk factors in adolescent, a meta-analysis of published prospective studies longitudinally predicting suicidal phenomena in adolescents. This included 13 published reports. Results from a random-effects model demonstrated significant, albeit weak, overall prediction of suicidal phenomena in adolescent 2.45 (95% CI: 1.60 to 3.4). Among specific suicidal phenomena risk factors, alcohol abuse, family suicidal behavior and friends' suicidal behavior yielded the strongest effects (ORs>3.0); all remaining risk factor categories produced ORs near or below 2.0. Additionally, results highlighted several limitations of the existing literature, including idiosyncratic suicidal phenomena measurement. These findings indicate that few strong suicidal phenomena risk factors have been identified, and suggest a need for standardized suicidal phenomena measurement and to create more longitudinal prospective studies of risk factors of suicidal phenomena in adolescent.