Nonlinear partial differential equations (NPDEs) are of great importance in applied sciences and engineering including physics, fluid mechanics, viscoelasticity, diffusion processes, aerodynamics, electrodynamics, electrostatics, electrochemistry, control theory, mathematical biology, and so on. The in-depth study study of literature reveals that most of physical phenomena are nonlinear in nature and hence there is an urgent need to find appropriate solutions for them. In general, NPDEs are difficult to solve, especially analytically, therefore, most NPDEs do not have exact analytical solutions, approximation and numerical methods are widely used. Thus, many researchers are working on the development of new techniques to obtain the analytical and numerical solution of NPDEs. The aim of this work is to develop a simplified analytical method known as the Laplace Adomian decomposition method (LADM), which is a combination of two powerful methods: the Laplace transform method and the Adomian decomposition method to obtain the solution of nonlinear wave-like equation with variable coefficients in the form