In this study, the anti-bacterial growth effect of the folkloric medicinal plant Rhazya stricta aqueous leaves extract was evaluated for locally isolated Neisseria meningitidis strains. Epidemiological survey and susceptibility test were undertaken of isolates to Rhazya stricta aqueous leaves extract. In order to collect local meningococcal isolates epidemiological survey were among local people gathering areas including: Hajjes coming through Hajj terminal of King Abdulaziz Airport, King Abdulaziz University students, and inmates in Illegal Residents Jail. Also, all governmental hospitals were asked for reporting any positive isolates. All positive isolates were grouped according two techniques Phenotypic-based techniques including Biochemical and Morphological Characters and antibiotic susceptibility; and, Genotypic-based techniques -DNA Fingerprint- using Restriction Fragment length polymorphism (RFLP) techniques. Thirteen positive isolates of N. meningitidis were detected in jail inmates, all of which were sensitive to all used recommended antibiotics. However, no positive meningococcal isolate were detected generally in all governmental hospital during the study and specifically within Hajjis and students samples. The degree of susceptibility of positive isolates to Rhazya stricta aqueous leaves extract was determined by several methods including disc diffusion method, well diffusion method, microdilution technique, and serial tubes dilution technique. All of which showed antibacterial growth effect of the extract on the locally meningococcal isolates in increasing manner along with concentration and treatment time but with less effect than the recommended therapeutic and/or preventive antibiotics.

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