

Bioassay-directed isolation of hypotensive alkaloids from *Holarrhena pubescens*

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Holarrhena pubescens belongs to the family Apocynaceae, commonly known as “Kurchi” is highly reputed in traditional medicine as a remedy for amoebic dysentery and other intestinal ailment. Bioassay-directed fractionation of the ethanolic extract of *Holarrhena pubescens* resulted in the isolation of steroidal alkaloids (Holamide and Pubscinine). In anaesthetized rats, the Holamide and Pubscinine caused a fall in blood pressure in a dose-dependent manner. Pretreatment of animals Atropine completely abolished the hypotensive response of Acetylcholine; whereas hypotensive effect of Holamide and Pubscinine were not modified by Atropine. Similarly Acetylcholine produced contractile effect in guinea-pig ileum, which was antagonized by atropine; however both (Holamide and Pubscinine) failed to produce any stimulant response on guinea-pig ileum. These data indicate that the steroidal alkaloids i.e. Holamide and Pubscinine from *Holarrhena pubescens* mediated hypotensive response through a mechanism different to that of Acetylcholine.

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Patterns of self-medication with over-the-counter pain relievers (acetaminophen, ibuprofen, and aspirin) among the Kuwaiti population

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Background: Global studies showed that the public lacks knowledge about over-the-counter pain relievers, with an alarming degree of unawareness and lack of concern about their potential side effects. Published data about the use of such medication in Kuwait are limited.

Material and methods: A descriptive cross-sectional questionnaire-based survey. The data were collected over a four-month period in 2012, from 850 subjects who identified as Kuwaiti citizens. These subjects were recruited using stratified random sampling, and they were selected from the six Kuwaiti governorates..

Results: Overall, a 67% response rate was obtained. In total, 68% (573) of the respondents reported use of over-the-counter pain relievers. Women, middle-aged or single individuals, and those who had completed higher education used these drugs more than any other subgroup ($p < 0.05$). We found evidence of inappropriate use of these drugs, with 15% (88) of the consumers using them almost daily. Further, 19% (111) of the consumers exceeded the recommended dosage at least once. Not only were 81% of the consumers unaware of the potential side effects, but also more than 61% were not concerned about them. Women were more knowledgeable than men regarding the maximum dose ($p = 0.036$, OR 1.49, CI 1.03–2.17). Consumers with higher levels of education did not show distinct knowledge regarding the maximum allowed dose of the drugs ($p = 0.252$, OR 1.71, CI 0.68–4.25).

Conclusion: The results showed a high prevalence of self-medication with over-the-counter pain relievers among Kuwaiti citizens. The subjects showed marked unawareness and a lack of concern regarding the potential complications resulting from the inappropriate use of these analgesics. This demonstrates the need for educational interventions directed toward both patients and health care workers.