# Pharmaceutical innovation in Jordan: Where are we on the map?

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#### **Abstract**

Background: Innovation is merely defined as a new idea, creative thoughts, new imaginations in form of device or method. Globally, there is an increased interest with this term as innovation has a great positive impact that innovation has on various aspects of life. With regards to pharmacy, innovation may be presented as providing better patient care, new discoveries and inventions of medications, drug delivery system and techniques that add value to the patients. This study aims to portray pharmaceutical innovation in Jordan as there is sparse or no data with this regard.

Method: in this work, a descriptive pharmaceutical innovation questionnaire that asked questions regarding pharmaceutical innovation in Jordan was conducted. Also, the results of an innovation competition was analysed and results were assimilated. Finally, a website assessment tool related to innovation criteria of websites of various pharmaceutical establishments was developed and applied on Jordanian pharmaceutical establishments. A comparison of Jordanian websites national and international measures was applied.

Results: a total of 397 participants answered the questionnaire (215 Pharmacy students and 182 Pharmaceutical professional). 63.5% were familiar with the term pharmaceutical innovation. Only

20.4% believe that the websites of their companies comply with innovation criteria. Not surprisingly, only 7.3% think that Pharmaceutical innovation received reasonable support. Most of the participants were optimistic regarding the future of innovation in Jordan (72.3%). The vast majority believe in the benefit of pharmaceutical innovation and that increasing the attention towards pharmaceutical innovation shall support the economy (94.0 and 92.9% respectively). Surprisingly, there were absolutely no pharmaceutical projects were submitted to an innovation competition in Jordan. The websites of Hikma Pharmaceuticals and PHARMACY ONE were found the best Jordanian websites that complied with innovations requirements. Generally, Jordanian establishments websites need more renovation to serve in the innovation process.

Discussion: this is the first study that describes pharmaceutical innovation process. Despite the descriptive findings only in this study, such results shall serve as a base to portray pharmaceutical innovation in Jordan