Abstract
Although community pharmacists have become more involved in the care of asthma patients, several studies have assessed pharmacists’ ability to illustrate appropriately inhalation technique of different asthma devices. Many studies addressed inappropriate use of asthma devices by patients and pharmacists, in addition to its clinical, humanistic and economic burden.
Objective: To evaluate community pharmacists’ practical knowledge and skills of demonstrating proper inhalation technique of asthma inhaler devices available in Sudan.
Method: Three hundred community pharmacies located around the three major hospitals in the capital city (Khartoum) and four other provinces were approached, and four asthma devices were assessed: Metered-dose inhaler (MDI) (n=105), MDI with Spacer (n=83), Turbuhaler (n=61), and Diskus (n=51). Investigator (a pharmacist) acted as a mystery patient. He selected one device and asked the serving pharmacist to demonstrate how to use the device. Investigator completed a checklist of 9 steps of inhaler device use immediately after leaving the pharmacy. Essential steps derived from published literature were pre-specified for each device. Five evaluation categories were accordingly formulated as follows: optimal technique, adequate technique, poor technique, totally unfamiliar with the device, and does not know.
Results: More than half of the pharmacists approached with metered-dose inhaler did not know how to use optimal technique (ie all steps correct) all through. A third poorly demonstrated the technique, and only one pharmacist was categorized as being able to demonstrate an "optimal technique". The majority of pharmacists approached with spacing chamber and dry powder inhalers (Turbuhaler and Diskus) either did not know proper technique or were totally unfamiliar with the devices.
Conclusion: The majority of community pharmacists, who were expected to educate asthma patients on their dispensed inhalers, lack the basic knowledge of proper use of commonly dispensed asthma inhaler devices.

Keywords
Nebulizers and Vaporizers, Asthma, Community Pharmacy Services, Pharmacists, Patient Simulation, Sudan.