

دور تقنيات التغليف الذكي والحديث في رفع كفاءة العبوة الدوائية بالسوق المصري  
**The Role of Smart and Intelligent Packaging Techniques in Increasing  
Pharmaceutical Packaging Efficiency in the Egyptian Market**

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### **Background:**

As a result of the increasing incidence of many problems of the pharmaceutical product due to the absence of the role of packaging in pharmaceutical product and consumer protection and detect the occurrence of damage or manipulation.

### **This can be identified in the following points:**

- Inadequate use of modern packaging techniques in the control of the quality of the pharmaceutical product quality in Egypt and lack of optimal usage of intelligent packaging techniques when a defect occurs and affects its validity or make the patient more Compliance to the dose of medicine through the added technologies to the medicine package.
- Non activation of advanced packaging in the protection of the Egyptian pharmaceutical product from external and internal influences.

### **Research :Goals:**

- The research aims for enhancing the role of pharmaceutical product packaging and emphasizing the efficiency of achieving packaging functions through advanced packaging techniques, and to achieve protection and safety for the consumer and protecting against fraud and manipulation.

### **Research :importance**

- The importance of this research is:
  - 1- Emphasizing the role of the pharmaceutical product package to aware the consumer about the validity of the medicine used, helping the pharmacist to quickly identify and detect the good medicine from the invalid one.
  2. helping the pharmaceutical companies in tracking the pharmaceutical product and thus confirming the quality and safety of the product.
  - 3- Reducing the manipulation of drug mafia companies from the recycling of old drug packaging.

### **Research :methodology :**

This research is based on the use of descriptive analytical experimental methodology in which access to knowledge by collecting data and information about the problem under study, then classification, analysis and subjecting it to careful study to reach the generalizations and the desired results of the research.

**most important conclusions:**

- Advanced packaging technology can enable patients to communicate with health care professionals through printed technology as well as Internet connectivity.
- A comprehensive work system, software and a strong working mechanism to achieve medical compliance through pharmaceutical packaging.
- One of the main reasons for the ineffectiveness of medical prescriptions is the patient's lack of adherence to the therapeutic plan as a result of forgetting some doses and thus reducing the drug efficacy.
- There are some companies that implement such technologies but outside Egypt and these are the international companies.
- The questionnaire indicates that lacking knowledge about the recent developments in packaging, and there is a state of confusion among the majority that what they use is the latest packaging technology. Knowing that the application of effective and intelligent packing systems is an important and urgent requirement that requires interaction with it, as we witness every day discovery of cases of products corruption and damage and manipulation of the product history of production and the expiry, and the consumer is the victim in the end.