DEVELOPMENT OF A NEW ADDITIONAL METHOD TO DISTINGUISH THE INVALID DRUGS AND DETECT DRUG VALIDITY

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ABSTRACT:

The threats and risks of the invalid drugs as expired, counterfeit (cheated), Substandard, spurious, falsely labeled, falsified).The risks and threats of the invalid drugs are many and wide vary, and the countries are trying to prevent these threats by some efforts as the regulatory institution's efforts and the recorded expire date on the drug container, but that are not enough to prevent this problem. As well as, the recorded expire date on the drug container can be cheated and not accurate, too. As it depends on the assumption the drug may be valid till this date if the drug is made and stored in an ideal manner, but in the real conditions the drug may expose to different conditions that may effect on its expire date and validity, as the environmental conditions e.g. light and temperature. So, in this research I found some answers about the people and invalid drug, and about the trust in drug use and safety, and I developed an additional, simple, rapid and a more accurate way to distinguish between the valid drugs and the invalid drugs that is suitable for public people, to decrease these threats and increase drug and patient safety.

INTRODUCTION:

One of the important issues that related to drug and patient safety is the invalid drug use, as A lot of people around the world may use the invalid drugs (as rotten, expired, Substandard, counterfeit (cheated drugs, spurious, falsely labeled, falsified drugs)), while they do not know that these drugs are actually invalid, especially in rural places and developing countries.

The risks and threats of taking or using of the invalid drugs are many and wide vary and can affect on drug therapy and patient safety as infections, headache, vomiting, or death, and waste of money, too.

I tried in this research to find an additional, more accurate, simple way (besides all regulatory efforts) to differentiate between the real valid drugs the invalid drugs , to be suitable for public people, i.e. I tried in this research to determine the actual validity period (is the real period at which the drug will be valid, actually), while the expected validity period: is the expected time at which the drug will be valid, and can be determined by the manufacturers (as by the recorded expire date on drug containers).

MATERIALS AND METHODS:

I used and tested some facts of Chemical and Physical nature of some drugs' substances and pH indicators in my simple Laboratory. e.g. Lo-Ion test kit, short range: pH 6-8. Each 0.5 unit of pH change is distinctly colored. Readings estimated to 0.25 PH unites and I got some information and references from the Internet, too.

A New Additional Way for Drug Validity Determination Using pH Indicators:

The idea of this method depends on the difference between the pH between valid drug media and invalid one, as when the drug become invalid, pH of its chemical constituents may change too, and that may cause changes in pH degree of the drug media and this pH can be detected by suitable pH indicator, and this pH indicator will sharply changes in colour, if only the pH of the drug changes to the pH in which the drug will start to be invalid, to indicate simply the actual validity of the drug. I designed and tested a design I called it Validity Investigator Spot (VIS) as the (Fig.1). To identify and distinguish the invalid drugs and valid drugs by only identifying the color of this small spot that put in a suitable place on the drugs containers, as Capsules, tablet, syrup. As:

Validity Investigator Spot (VIS) appears white with the Valid Drug, while appears red with the invalid drugs.

FIG. 1: VALIDITY INVESTIGATOR SPOT (VIS)

RESULTS AND DISCUSSION:

we will need an additional way (besides all regulatory efforts) to determine the actual- real validity of the drugs for public people, to differentiate and distinguish easily between the actual valid drugs from the invalid drugs as by this (VIS) method, because it is more accurate, simple for anyone to understand and recognize it by using only optic eye, cheap, can determine the actual- real validity of the drugs, decrease the risks and threats of the invalid drug, increase drug safety, makes the people more trusted and more comfortable about the drug validity, safety and activity That effect on their psychological and general health, too. . As well as suitable for most drugs, most ingredients, most pharmaceutical forms of drugs, suitable for some types of food and canned food, too.

I recommend this method to be applied by drugs manufactured companies for all drugs as possible. As It is a good step for drug manufacturing and development, but it needs some desired information accurately from the manufacturing companies, as the information about the exact pH at which the drug will start to become actually expired or actually invalid. And the manufacture may need (in some types of drugs) to design the drug components in which pH of the valid drug should differ enough from the pH of the invalid drugs, to get the exact and the suitable pH indicator type to design the suitable (VIS).

REFERENCES:

1. Giorgio DD: Council of Europe/EDQM publishing. Counterfeit medical products and similar crimes: case studies, 2011; 2.
2. WHO: Media center Fact sheets. Substandard, spurious, falsely labeled, falsified and counterfeit (SSFFC) medical products 2016.
3. Partnership for Safe Medicines, "Learn 5 Kinds of Poisons found in Counterfeit Medicines," 2012.
4. WHO: Media center Fact sheets. Substandard, spurious, falsely labeled, falsified and counterfeit (SSFFC) medical products, 2016.

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