Inked

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As medication in Middle Eastern countries is delivered to consumers in their original factory box, fraud where expired medicine is commercialized has become a typical issue. A novel mechanism is described that simply, accurately and inexpensively provides clear markers for an expired medicine box. The system I developed during the prior year is constituted of an ink path working on capillary attraction; using that structure, a medicine box would be entirely tinted when it expires. Since expiry dates differ from a medicine to another, I have studied density, speed, capillarity and sorptivity of the materials I have used along with the effect of environmental factors that were suspected to hinder the process (temperature and pressure). Noting that pharmaceutical staff has to check boxes individually since no technological devices are present in all hospitals in the region, the use of that kind of visual aid was found to be 2.5 times faster with an average of 24 minutes less than without aid. The cost shifts from medicine to another since the properties of the fabric used would differ according to the expiry date; the difference from one box to another would be by replacing a fabric by another and/or adding a small amount of ink, which would have a negligible cost when bought in quantities. Therefore, the whole mechanism would have little effect on the actual price of a medicine box making it inexpensive, reliable, and practical for consumers use.

Awards Won: