

**UNIVERSITY OF SCIENCE & TECHNOLOGY**

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**Review of Quality Control for Spectrophotometer**

**BY:**

**Razan Elsir Mohamed Hamed**

**Supervisor:**

**Dr. Mohamed EL.basheir Mustafa**

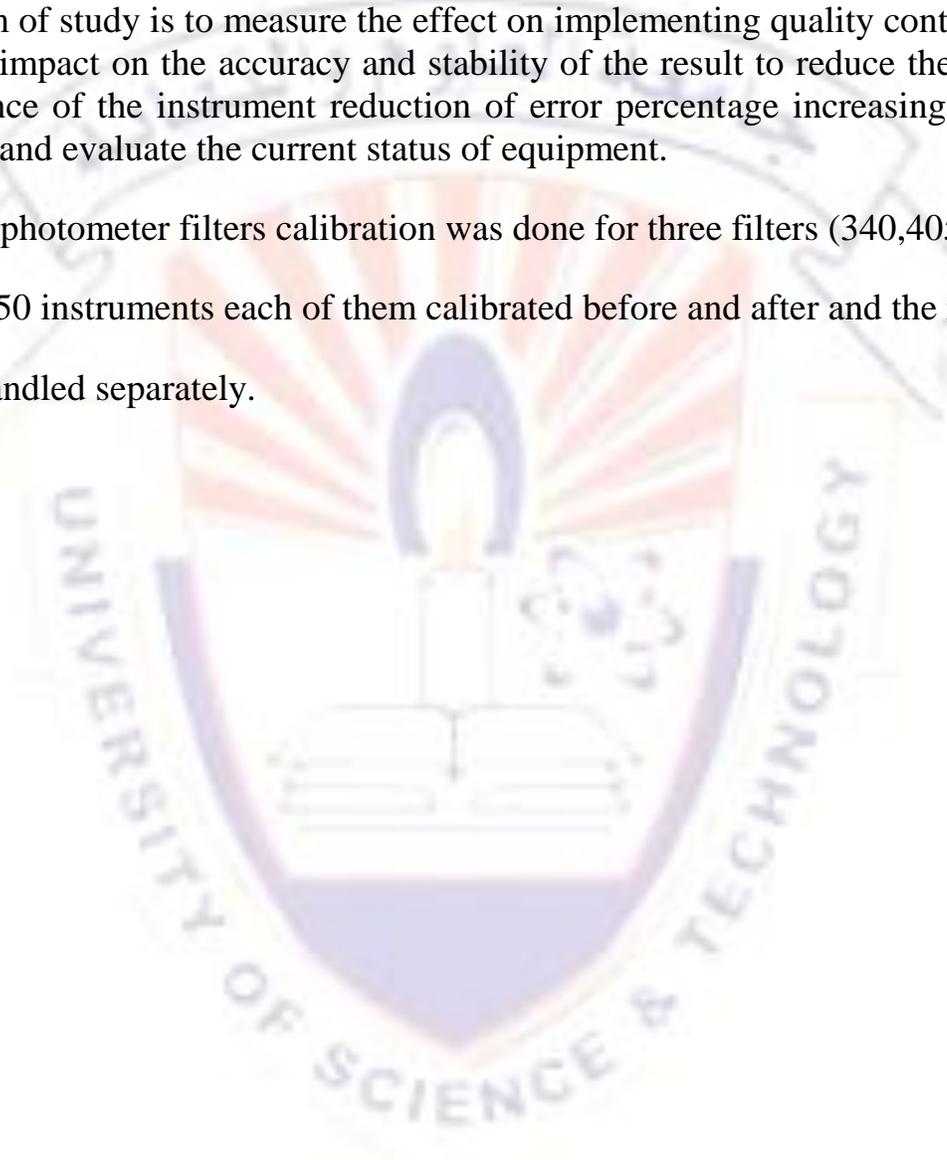
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## **Abstract**

This study was conducted for consecutive two years ago (2011 \_ 2012), The samples were selected based on systemic random samples by using calibration tools “natural density filter” ,”Thermometer” depending on the ISO (15 189) standards and that by using statistical software (spss 15) to analyze these data.

The aim of study is to measure the effect on implementing quality control program and its impact on the accuracy and stability of the result to reduce the cost of the maintance of the instrument reduction of error percentage increasing health care quality and evaluate the current status of equipment.

Spectrophotometer filters calibration was done for three filters (340,405,505) for the 50 instruments each of them calibrated before and after and the result were handled separately.



## المستخلص

تم التحصل علي هذه الدراسة في الأعوام المنصرمة ( 2011\_ 2012 ) العينات تم اختيارها علي أساس العشوائية باستخدام أدوات المعايرة (مرشح الكثافة الطبيعي ومقياس درجة الحرارة) بالاعتماد علي مواصفات الايزو وباستخدام التحليل البرمجي لتحليل هزه المعلومات

(spss 15)

الهدف من هزه الدراسة هو قياس برنامج ضبط أ جودة وحدة تأثيره علي الدقة والثبات علي النتاج أمتحصله لتقليل تكلفة صيانة الاجهزه وتقليل درجة الخطأ وزيادة جودة الرعاية الصحية وتقييم الحالة الحالية للاجهزه .

المعايرة التي تمت علي الاجهزه تمت علي 50 جهاز باستخدام ثلاث فلا تر ( 340 و 405 و 505 ) كل واحد منهم تم اخذ القراءات قبل وبعد المعايرة



## **Introduction:**

In accounting science medical equipment's known as assets, these assets are depreciation over years so the value of equipment is decline over years because of the reduction of the quality due to operation, in medical field these equipment's need calibration to operate efficiently, these calibration test done periodically and that not means the instrument could work in the same manufacturing quality but reduce the percentage of errors .

developing countries implemented quality control in health care depending on international agreed upon standards like ISO in equipment and HASAP in food and that to ensure human been safety and provide useful services and welfare.

In Sudan quality control does not apply in proper way, it is undisputed fact that there is significant different in the medical results when compare these results taken in the same day in different places (labs) and that because of the high cost of quality control tools and solutions, as for private health care hospitals are not obligate to stick to rules, on the other hand public healthcare hospitals claim that they apply quality assurance and quality control program.

Laboratory is the medical science which plays an important role in diagnosis diseases, it has different departments, one of the most important departments is chemistry, and spectrophotometer is one of the oldest and fundamental chemistry lab equipment. The selection of this instruments is comes from it is important and the role it has plays in diagnosis.