

## DEVELOPMENT OF METHODS OF QUALITY CONTROL AND STABILITY STUDIES OF EYE DROPS WITH RIBOFLAVIN

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**Introduction.** Determination of sterility and stability of extemporaneous medicines is one of the base and the most important tasks of pharmaceutical analysis. In this regard eye drops, especially with vitamins, are of particular interest. Stability of ingredients in eye drops depends on the chemical properties of substances, product pH, storage methods (especially the temperature), other additive and type of packaging. Sterility depends on the methods of sterilization, type of packaging and storage conditions.

For our investigation eye drops with riboflavin was chosen. As is known riboflavin is helpful with eye disorders and in particular with the treatment of some eye cataracts. Crystalline riboflavin shows no evidence of decomposition under ordinary conditions, but protection from light is advisable. Solution of riboflavin decomposes under the influence of visible or ultraviolet light. So investigation of stability of this eye drops is useful and interesting.

**Aim.** The aim of this investigation is to study the chemical stability and sterility of riboflavin eye drops compounding preparation.

**Materials and methods.** Riboflavin eye drops compounding preparation was selected for the stability and sterility study. Composition: Riboflavin 0.002, Solution of sodium chloride 0.9% -10 ml. The chemical stability study of riboflavin eye drops compounding preparation and stress testing was carried out by TLC method, UV-spectrophotometry and chemical reactions. All solvents and reagents which used in the study were analytical reagent grade, and all reagents used in the investigation were freshly prepared.

**Results and discussion.** For determination of stability and identification of the ingredients and degradation products chemical reactions, UV-spectrophotometry and TLC were used. For determination of sterility microbiological method was carried out.

**Conclusions.** During this investigation methods of the determination of stability and sterility for Riboflavin eye drops compounding preparation were developed. Quality control and stability studies were carried out.