

ABSTRAK

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PENGARUH pH DAN SISA KLOOR TERHADAP KELUHAN IRITASI MATA
PENGGUNA KOLAM RENANG DI KOTA PROBOLINGGO TAHUN 2025

xv + 108 Halaman + 18 Tabel + 7 Lampiran

Air kolam renang memerlukan proses klorinasi dan pengendalian pH yang tepat untuk menjamin efektivitas desinfeksi dan mencegah gangguan kesehatan seperti iritasi mata. Penelitian ini bertujuan untuk menganalisis kadar sisa klor dan pH air kolam renang serta hubungannya dengan keluhan iritasi mata pada pengguna kolam renang di Kota Probolinggo. Melibatkan lima kolam renang umum yang dipilih secara purposive sampling, penelitian ini menggunakan desain observasional analitik dan pendekatan cross-sectional. Setelah observasi, pemeriksaan laboratorium, dan data dikumpulkan melalui kuesioner, dan uji Chi-Square digunakan untuk menganalisisnya.

Hasil penelitian menunjukkan bahwa kadar sisa klor terdapat di sebagian besar kolam dan nilai pH yang tidak sesuai standar, yaitu di luar kisaran ideal 7–7,8 menurut Permenkes No. 2 Tahun 2023. Sebanyak 53,8% responden mengalami keluhan iritasi mata, sementara 46,2% tidak. Uji statistik menunjukkan adanya pengaruh yang signifikan terhadap gejala iritasi mata antara kadar sisa klor dan pH air ($p = 0,00$), yang menandakan bahwa kualitas air sangat berpengaruh terhadap kesehatan mata pengguna kolam.

Berdasarkan temuan tersebut, disarankan agar pengelola kolam renang melakukan pemantauan rutin minimal tiga kali sehari terhadap kadar pH dan sisa klor, serta menyesuaikan dosis bahan kimia sesuai kondisi air. Penggunaan kacamata renang dianjurkan bagi pengguna untuk mengurangi risiko iritasi. Penelitian lanjutan sebaiknya mempertimbangkan faktor durasi berenang sebagai variabel yang dapat memengaruhi keluhan iritasi mata.

Kata kunci : pH, Sisa Klor, Air Kolam Renang, dan Keluhan Iritasi Mata

Daftar bacaan : 5 buku + 31 jurnal (2015-2025)

ABSTRACT

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THE EFFECT OF pH AND RESIDUAL CHLORINE ON EYE IRRITATION COMPLAINTS OF SWIMMING POOL USERS IN PROBOLINGGO CITY IN 2025
xv + 108 Pages + 18 Tables + 7 Appendices

Swimming pool water requires proper chlorination and pH control to ensure effective disinfection and prevent health problems such as eye irritation. This study aimed to analyze residual chlorine levels and pH in swimming pool water and their relationship to eye irritation complaints among swimming pool users in Probolinggo City. Involving five public swimming pools selected through purposive sampling, this study employed an analytical observational design and a cross-sectional approach. Following observations, laboratory tests, and questionnaires, data were collected, and the chi-square test was used to analyze the results.

The results showed that residual chlorine levels were present in most pools and that the pH values were below the standard, outside the ideal range of 7–7.8 according to Minister of Health Regulation No. 2 of 2023. Fifty-three percent of respondents experienced eye irritation, while 46.2 percent did not. Statistical tests showed a significant effect on eye irritation symptoms between residual chlorine levels and water pH ($p = 0.00$), indicating that water quality significantly impacts the eye health of swimming pool users.

Based on these findings, it is recommended that swimming pool managers routinely monitor pH and chlorine levels at least three times daily, and adjust chemical dosages according to water conditions. Swimming goggles are recommended for users to reduce the risk of irritation. Further research should consider swimming duration as a possible factor influencing eye irritation complaints.

Keywords : pH, Residual Chlorine, Swimming Pool Water, Eye Irritation Complaints

References : 5 books + 31 journal (2015-2025)