

ABSTRAK

Fiksasi merupakan proses pengawetan jaringan yang bertujuan untuk mengawetkan jaringan agar struktur selnya tetap sama dan tidak mudah rusak. Larutan fiksasi *Neutral Buffer Formalin* 10% sering dipakai untuk preparasi preparat histologis tetapi beracun dan tidak ramah lingkungan. Penggunaan larutan NaCl untuk mengurangi konsentrasi formaldehida, dapat mempertahankan jaringan tanpa mengubah warna dan bentuk, memiliki sifat bakteristatik, membunuh bakteri, terjangkau, dan aman untuk pengawetan. Tujuan dilakukan penelitian ini untuk mengetahui hasil perbandingan fiksasi dengan variasi konsentrasi NaCl dan NBF 10% terhadap kualitas sediaan histologi jaringan renal.

Jenis penelitian yang digunakan yaitu eksperimental laboratorium dilakukan di Pusvetma dan Laboratorium Sitohistoteknologi Jurusan Teknologi Laboratorium Medis Poltekkes Kemenkes Surabaya pada bulan April-Mei 2023. Variabel penelitian ini yaitu kualitas sediaan jaringan renal pada proses fiksasi larutan NBF 10% dan larutan NaCl konsentrasi 24%, 28%, 32%. Hasil data penilaian terhadap kualitas sediaan didapat dari 24 sampel sediaan jaringan *renal* hewan coba mencit dengan pengulangan sebanyak 6 kali pada setiap perlakuan yang diwarnai menggunakan pewarnaan *Hematoxylin-eosin*.

Data diperoleh dari tahap skoring dan diolah secara statistik non-parametrik uji *Kruskal-Wallis* yang menunjukkan hasil terdapat perbedaan pada kualitas sediaan jaringan renal sehingga dilanjutkan uji *Mann-Whitney* yang menunjukkan hasil nilai $P > \alpha$ yang berarti tidak terdapat perbedaan pada kualitas sediaan jaringan renal pada kelompok perlakuan fiksasi larutan NaCl 28% dan 32%. Berdasarkan hasil tersebut dapat disimpulkan bahwa larutan fiksasi NaCl 28% dan 32% dapat digunakan sebagai alternatif larutan fiksasi.

Kata kunci : Fiksasi, *Neutral Buffer Formalin* 10%, NaCl

ABSTRACT

Fixation is a process of tissue preservation that aims to preserve the tissue so that the cell structure remains the same and does not easily damage. The fixation solution, Neutral Buffer Formalin 10% is often used for histological preparation but is toxic and not environmentally friendly. The use of NaCl solution to reduce the concentration of formaldehyde, can maintain the tissue without changing the color and shape, has bacteriostatic properties, kills bacteria, is affordable, and safe for preservation. The purpose of this study was to determine the results of a comparison of fixation with variations in NaCl concentration and NBF 10% on the quality of histological preparations of renal tissue.

The type of research used was laboratory experiments conducted at Pusvetma and the Sitohistotechnology Laboratory of the Medical Laboratory Technology Department of Poltekkes Kemenkes Surabaya in April-May 2023. The variables in this study were the quality of renal tissue preparations in the NBF 10% fixation solution and NaCl solutions with concentrations of 24%, 28%, 32%. The data obtained from the assessment of the quality of preparations was obtained from 24 samples of renal tissue preparations from experimental mice with 6 repetitions in each treatment that were stained using Hematoxylin-eosin staining.

The data was obtained from the scoring stage and processed non-parametrically using the Kruskal-Wallis test which showed that there were differences in the quality of renal tissue preparations so that the Mann-Whitney test was continued which showed that the P value $> \alpha$ which means there is no difference in the quality of renal tissue preparations in the NaCl 28% and 32% fixation treatment groups. Based on these results, it can be concluded that NaCl 28% and 32% fixation solutions can be used as an alternative fixation solution.

Keywords : *Fixation, Neutral Buffer Formalin 10%, NaCl*