

CHAPTER V CONCLUSIONS AND SUGGESTIONS

5.1 Conclusions

Based on the results of the calculations and the overall data analysis, the following conclusions can be presented:

1. The dosimetric evaluation of Stage III cervical cancer cases using 3DCRT demonstrated that HI and CI generally approached the ideal standards recommended by the ICRU, indicating that the dose distribution was fairly uniform and well-conformed to the target volumes.
2. The radiobiological assessment based on EUD calculations showed that the average TCP was 41.32%, reflecting a moderate likelihood of tumor control that remains clinically relevant. In addition, the highest NTCP values were observed in the bladder, often exceeding the TD_{50} reference dose, while the rectum and bowel exhibited very low NTCP values, suggesting that these organs received adequate protection from excessive radiation exposure.

5.2 Suggestions

Based on the results observed in this study, several recommendations are offered to support improvements in future research:

1. To improve the accuracy of radiobiological parameter calculations, it is recommended to use the entire organ volume of each patient rather than only selected intervals, as limiting the analysis may overlook important points such as hotspot and coldspot regions.
2. Future studies should also consider the impact of additional treatments such as chemotherapy or boost doses, since these factors can significantly influence TCP and NTCP values.

3. It is further suggested that alternative methods, such as IMRT or VMAT techniques, be explored in subsequent research to compare the effectiveness of treatment planning and its impact on clinical outcomes.

