Implementing of artificial intelligence algorithms to monitor and improve the adherence and compliance of bariatric surgery patients to dietary and life style.

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Background and objectives

Utilizing artificial intelligence (AI) to promote adherence and compliance to dietary and lifestyle recommendations among bariatric surgery patients is vital for enhancing outcomes.

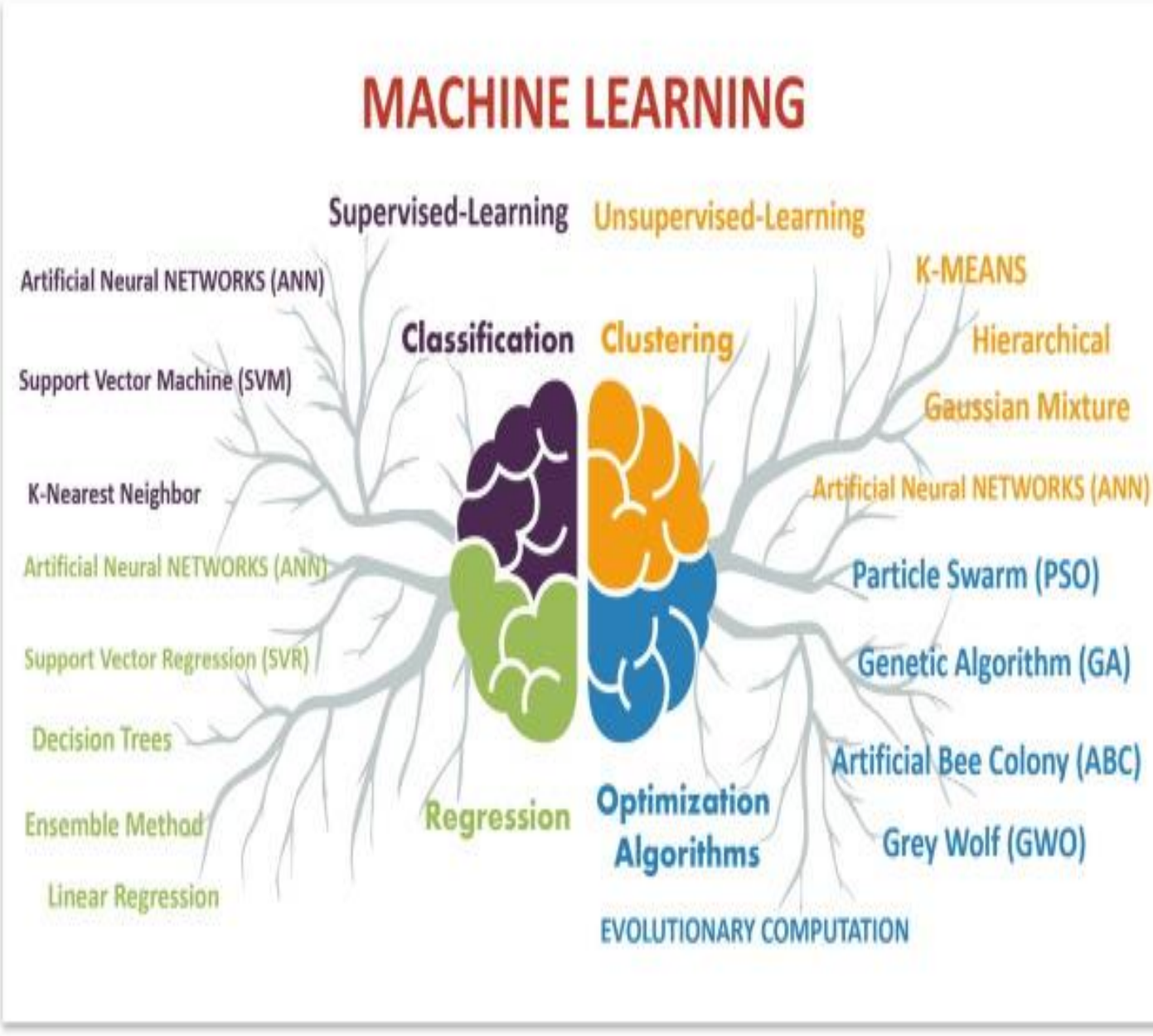
AI analysis optimizes patient selection, surgical planning, and post-operative care, facilitating weight loss progress and improving patient outcomes.

This study aims to explore the integration of AI algorithms to monitor and improve patient adherence in bariatric surgery.

Methods

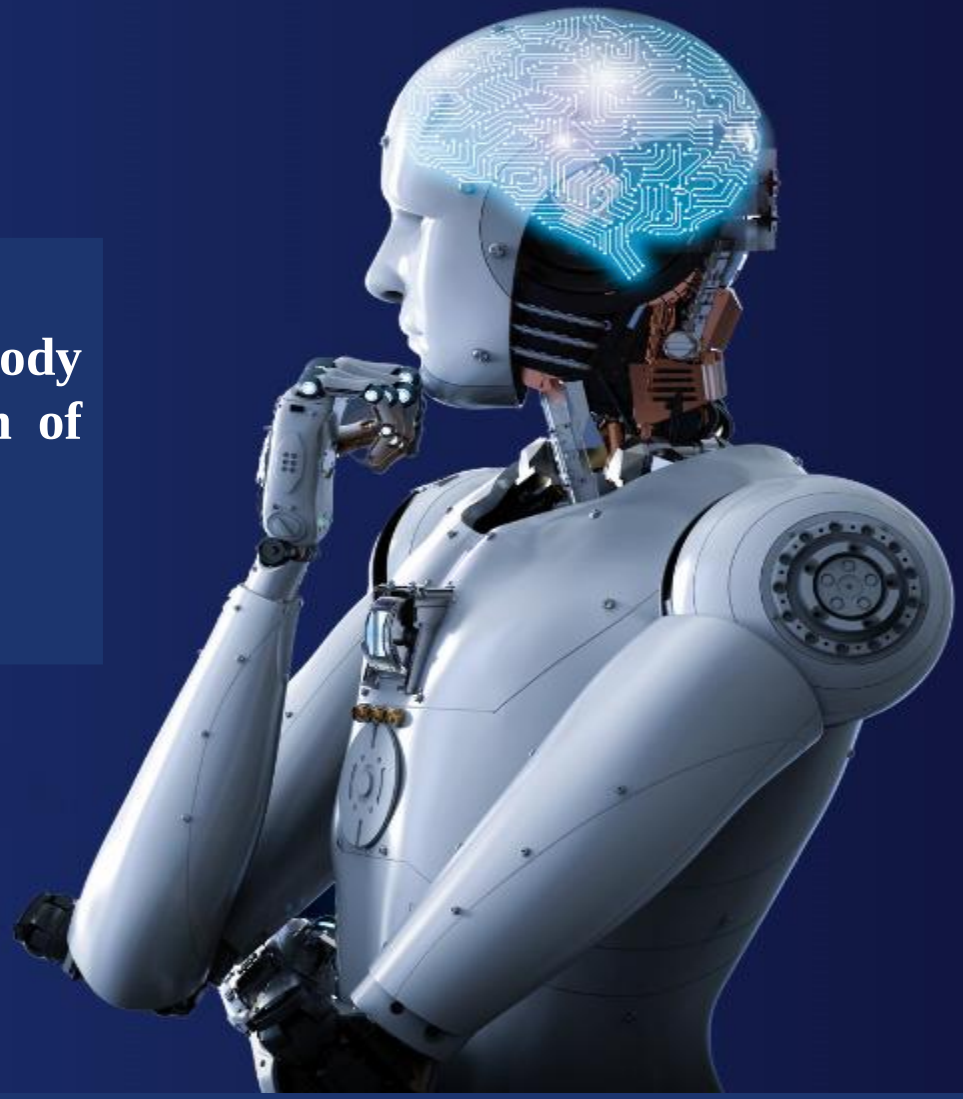
This study aimed to predict adherence to the prescribed diets using a hybrid model of artificial neural networks (ANNs) and the genetic algorithm (GA).In this study, 26 factors affecting diet adherence were modelled using ANN and GA (ANGA).

In order to train, adjust and measure the performance of the models, all the data are assigned to one of three categories: train, tune (cross-validation) and test, which is 3:1:1 and random. Finally, all these characteristics enter a simple neural network consisting of Fully Connected Layers, which is trained to predict treatment results and prognosis of patients.



Result

Factors like type of surgery, preoperative weight, body mass index, satisfaction, wake-up time, modification of eating habits before surgery lunch, and dinner time were strongly correlated with diet adherence ($p>0.01$).



Conclusion

By leveraging AI and analyzing extensive datasets, this study highlights the potential of artificial intelligence in enhancing patient **adherence and compliance in the context of bariatric surgery.**

Implementing AI technology can significantly **improve long-term weight loss outcomes and post-operative care for bariatric surgery patients.**

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- Type of affiliation / financial interest: NO
- Receipt of grants/research supports:NO
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