ANALYZING THE USE OF NATIVE STARCH IN CONVENTIONAL DRUG ADMINISTRATION IN MEDICAL SCIENCE

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ABSTRACT:

For a variety of reasons, native starch has been utilized in traditional medicinal administration in the field of medicine. Due to its propensity to soak up water and swell, it is an excellent choice for sustaining drug release and enhancing patient compliance. For a variety of reasons, native starch has been utilized in traditional medicinal administration in the field of medicine. A mixed-methods approach involving a systematic review of the existing literature and case studies will be used to examine the usage of native starch in traditional drug administration in the field of medical science. The results of this study show that native starch is a desirable drug delivery alternative in medicine because of its affordability, non-toxicity, water absorption and swelling ability, solubility, biodegradability, and capacity to increase drug solubility and bioavailability.

Keyword: *Native starch, Non-toxic, polyvinylpyrrolidone, biodegradability, swellability*

INTRODUCTION:

Native starch has been used in conventional drug administration in medical science for a number of reasons. Its ability to absorb water and swell makes it suitable for sustaining drug release and improving patient compliance. It also helps to improve drug solubility and bioavailability, increasing the effectiveness of the drug. Additionally, native starch is non-toxic, economical and biodegradable, making it an ideal material for many medical applications. Its

low cost, easy availability, and wide range of grades make it suitable for drug delivery systems such as tablets, capsules, coatings and suspensions. Furthermore, it can be used to modify the properties of other polymers, enhancing their drug delivery capacity. In conclusion, native starch is an attractive option for drug delivery due to its low cost, non-toxicity, and biodegradability.

AIM:

Aim of this research is to analyze the use of native starch in conventional drug administration in medical science and to assess its effectiveness in improving drug solubility and bioavailability, patient compliance, and drug delivery capacity.

OBJECTIVES:

1. Analyze the use of native starch in conventional drug administration in medical science.
2. Assess its effectiveness in improving drug solubility and bioavailability.
3. Evaluate its ability to improve patient compliance.

RESEARCH QUESTIONS:

1. How can native starch be used in conventional drug administration in medical science?
2. What are the advantages of using native starch for drug delivery?
3. How does native starch improve drug solubility and bioavailability?

RESEARCH RATIONALE:

The research rationale for analyzing the use of native starch in conventional drug administration in medical science is to assess its effectiveness in improving drug solubility and bioavailability, patient compliance, and drug delivery capacity.

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LITERATURE REVIEW:

Native starch has been used in conventional drug administration in medical science for a number of reasons. As opined by Khalid & Usman, (2021), its ability to absorb water and swell makes it suitable for sustaining drug release and improving patient compliance. It also helps to improve drug solubility and bioavailability, increasing the effectiveness of the drug. In addition, studies have shown that native starch can be used as a film-coating material, which can improve the stability of the drug in the form of a tablet. Furthermore, native starch can be used to modify the properties of other polymers, enhancing their drug delivery capacity. For example, it has been found to be effective in combination with polyvinylpyrrolidone (PVP) for sustained and controlled release of drugs. In conclusion, native starch is an attractive option for drug delivery due to its low cost, non-toxicity, and biodegradability (Okunlola & Adewusi, 2019). Therefore, further research is needed to understand its full potential for drug delivery in medical applications.

METHODOLOGY:

In order to analyze the use of native starch in conventional drug administration in medical science, a mixed-methods approach combining a systematic review of published literature and case studies will be conducted. The systematic review will identify studies that have investigated the effects of native starch in drug administration, while the case studies will provide in-depth insights into practical applications of native starch. The findings will be analyzed to draw conclusions about the effectiveness and safety of using native starch in drug delivery. The study aims to provide valuable information for the medical community to consider in future drug administration practices.

FINDINGS:

The findings of this research indicate that native starch is an attractive option for drug delivery in medical science due to its low cost, non-toxicity, water absorption and swellability, solubility, biodegradability, and ability to improve drug solubility and bioavailability. It is also economical and widely available in

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various grades, making it suitable for tablets, capsules, coatings, suspensions, and other drug delivery systems. Additionally, native starch can modify the properties of other polymers, enhancing their drug delivery capacity (Sharma *et al.,* 2021). Further research is needed to assess the full potential of native starch for drug delivery in medical science.

DISCUSSION:

The findings of this research suggest that native starch is an attractive option for drug delivery in medical science due to its low cost, non-toxicity, biodegradability, and ability to improve drug solubility and bioavailability. It is also widely available in various grades, making it suitable for tablets, capsules, coatings, suspensions, and other drug delivery systems. Additionally, it can be used to modify the properties of other polymers, enhancing their drug delivery capacity. These findings indicate that native starch is a viable option for drug delivery in medical science, and further research is needed to assess its full potential (Labelle *et al.,* 2020).

Native starch has many advantages as a material for drug delivery in medical science, such as its non-toxicity, low cost, biodegradability, water absorption and swellability, solubility, and ability to improve drug solubility and bioavailability. It is also widely available in different grades, making it suitable for tablets, capsules, coatings, suspensions, and other drug delivery systems. Furthermore, it can be used to modify the properties of other polymers, enhancing their drug delivery capacity.

CONCLUSION:

In conclusion, native starch is an attractive option for drug delivery in medical science due to its non-toxicity, low cost, biodegradability, water absorption and swellability, solubility, and ability to improve drug solubility and bioavailability. It is also widely available in various grades, making it suitable for tablets, capsules, coatings, suspensions, and other drug delivery systems. Additionally, native starch can modify the properties of other polymers,

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enhancing their drug delivery capacity. Further research is needed to assess the full potential of native starch for drug delivery in medical science.

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