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THE STUDIES OF DURIAN RIND EXTRACTS AS THE AQUEOUS
BINDERS FOR TABLET PREPARATION

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กวี จันทรประภาพร : ศึกษาการใช้สารสกัดจากเปลือกทุเรียนเพื่อเป็นสารช่วยยึดเกาะโดยใช้
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การประเมินคุณสมบัติช่วยยึดเกาะของสารสกัดจากเปลือกทุเรียน D₁ (สกัดด้วยแอลกอฮอล์)
และ D₂ (สกัดด้วยกรด-แอลกอฮอล์) เปรียบเทียบกับสารช่วยยึดเกาะอื่นที่ใช้กันแพร่หลาย เช่น
PVPK30, corn starch, Starch 1500^(R), gelatin และ Methocel E15LV^(R) สาร
ช่วยยึดเกาะที่ใช้ในการศึกษาจะนำมาเตรียมยาเม็ด paracetamol และ pyridoxine
hydrochloride ในระดับความเข้มข้น 1, 2 และ 4% ของน้ำหนักแห้งด้วยวิธี solution
incorporation และ dry incorporation คุณสมบัติช่วยยึดเกาะของสารช่วยยึดเกาะจะ
ประเมินจากคุณสมบัติทางกายภาพที่สำคัญของแกรนูลและยาเม็ด เช่น ขนาดและการกระจายขนาดของ
แกรนูล, ความกร่อนของแกรนูล, คุณสมบัติการไหล, ความแข็งของเม็ดยา, ความกร่อน, การแตก
กระจายตัว, การละลายและค่าดัชนียึดเกาะ

ผลการทดลองในตัวยาทั้ง 2 ชนิด แสดงให้เห็นว่า สารสกัดจากเปลือกทุเรียนทั้ง 2 รูปแบบ
มีคุณสมบัติช่วยยึดเกาะดีกว่า corn starch และ Starch 1500^(R) ดังนั้นจึงสามารถใช้เป็นสาร
ช่วยยึดเกาะที่มีประสิทธิภาพในการเตรียมยาเม็ดที่ความเข้มข้นมากกว่า 1% สำหรับตัวยา
paracetamol และทุกความเข้มข้นสำหรับตัวยา pyridoxine hydrochloride ตามลำดับ
อย่างไรก็ตาม คุณสมบัติดังกล่าวจะดีกว่า PVPK30, gelatin และ Methocel E15LV^(R)
นอกจากนี้ การใส่สารช่วยยึดเกาะเข้าไปในตำรับ paracetamol โดยวิธี solution
incorporation ให้ยาเม็ดที่มีคุณสมบัติที่ดีกว่าวิธี dry incorporation แต่ในกรณีของ
pyridoxine hydrochloride ทั้งสองวิธีให้ผลที่ใกล้เคียงกัน



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ลายมือชื่อนิติ
ลายมือชื่ออาจารย์ที่ปรึกษา
ลายมือชื่ออาจารย์ที่ปรึกษาร่วม

พิมพ์ต้นฉบับบทคัดย่อวิทยานิพนธ์ภายในกรอบสี่เหลี่ยมนี้เพียงแผ่นเดียว

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AQUEOUS BINDERS FOR TABLET PREPARATION. THESIS ADVISOR :
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Durian rind extracts, D₁ (alcohol extraction) and D₂ (acid-alcohol extraction) were evaluated for their binding properties as comparing with commonly used binders such as PVPK30, corn starch, Starch 1500^(R), gelatin and Methocel E15LV^(R). They were employed at 1, 2 and 4% base on dry basis for both paracetamol and pyridoxine hydrochloride tablets using solution and dry incorporation method. The important physical properties of granules and tablets, for example, granule size, size distribution, granule friability, flowability, tablet hardness, friability, disintegration, dissolution and binder index were evaluated for their binding properties.

Generally, the results obtained from both drugs emphasized that both durian rind extracts exhibited binding properties superior to corn starch and Starch 1500^(R). Thus, they can be utilized as the effective binding agents for tablet preparation at concentration greater than 1% for paracetamol and at all concentration for pyridoxine hydrochloride, respectively. However their binding properties were inferior to PVPK30, gelatin and Methocel E15LV^(R). In addition, in the case of paracetamol, it was found that solution incorporation method tended to produced more satisfactory results than dry incorporation method. On the other hand, both methods gave comparable results for pyridoxine hydrochloride tablets.



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