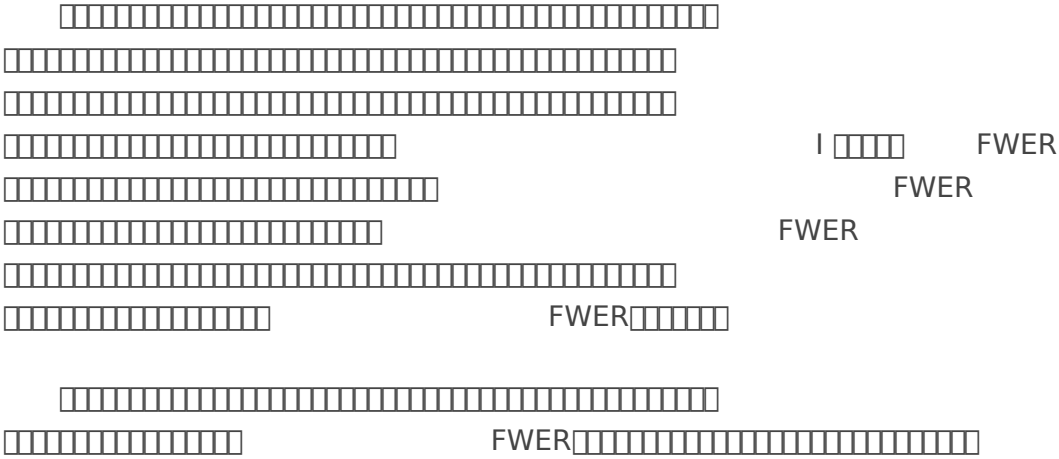


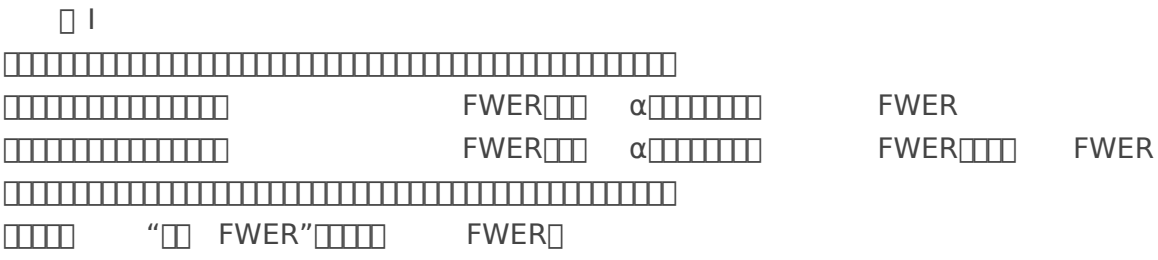
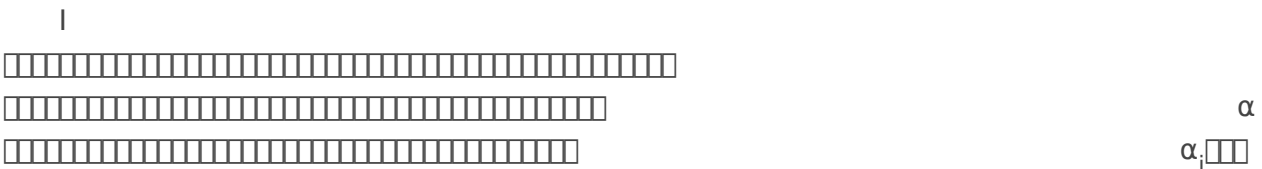
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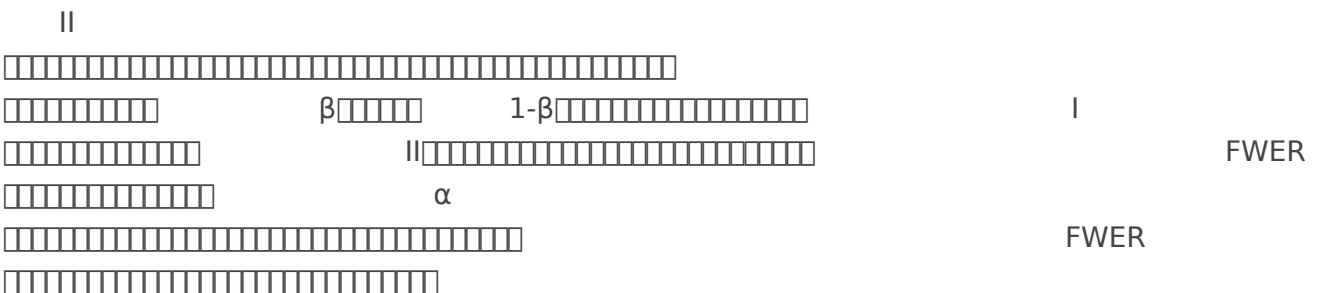


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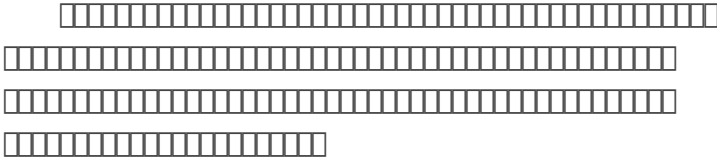


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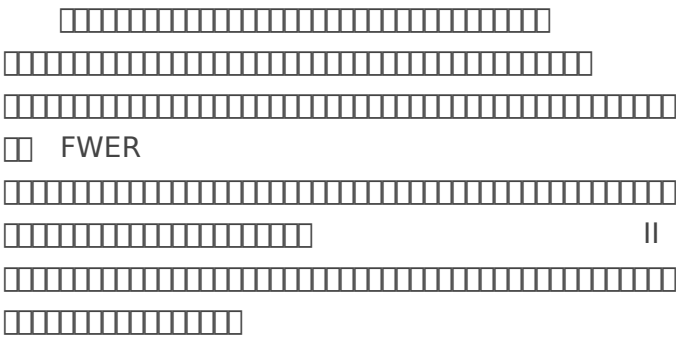


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1. ????

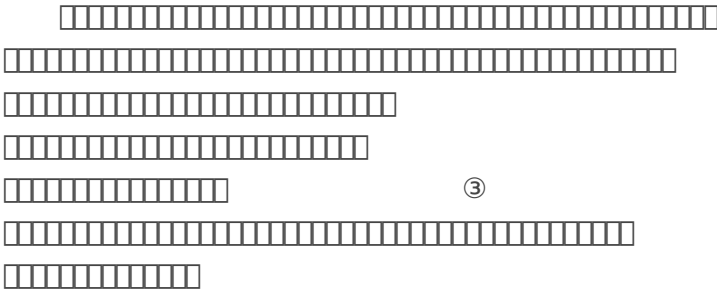


?1??????????



1

?2??????????????

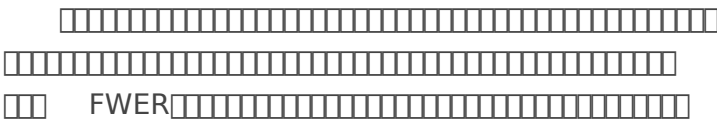


FWER
① [row of squares]

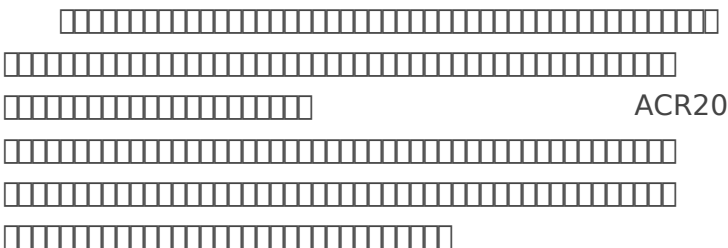
②

FWER

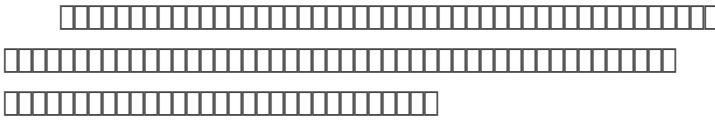
2. ????



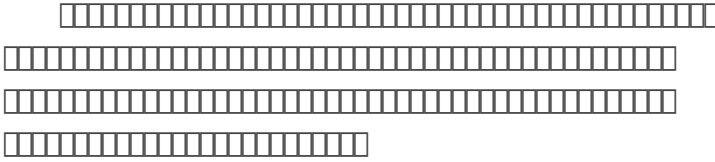
3. ????



4. ?????



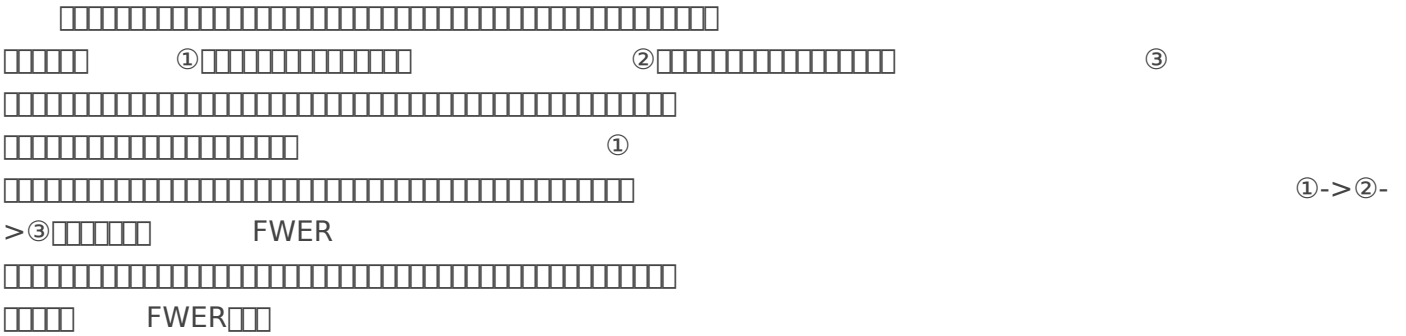
5. ?????



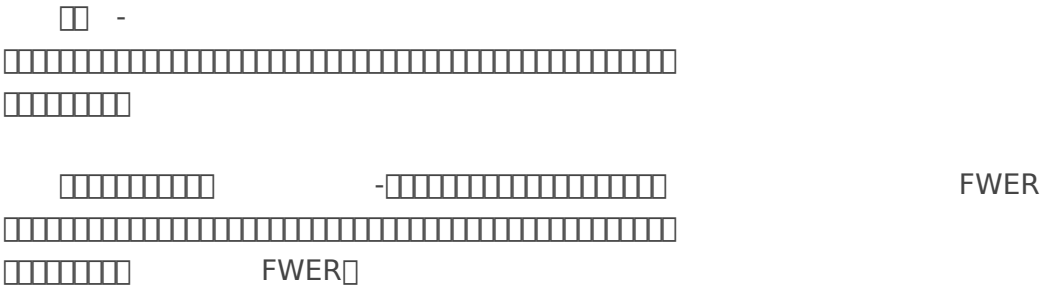
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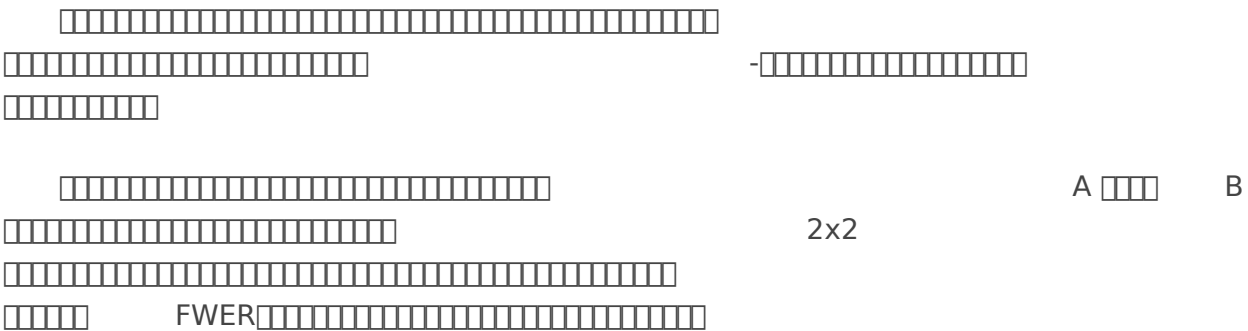
1. ????



2. ??-????



3. ????????



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α_i α
 H_{01} H
 H_{03}
 H_{A1} H_{A2} H_{A3}
 α
 H_{02} H_{03} 1 2 3
 H_{01} H_{02} H_{03}

24????

α_i
 H_{01} H_{02} H
 α_1 α_2
 $\alpha_1 + \alpha_2$
 H_{01} H_{02} O_1 O_2
 O_1 O_2
 $\alpha_1 = 0.04$ $\alpha_2 = 0.01$ P
 $P_1 = 0.062$ $P_2 = 0.005$ $P_1 = 0.062 > \alpha_1$ P_2
 $= 0.005 < \alpha_2$ $P_1 = 0.032$ $P_2 = 0.015$ O_1
 O_2 $P_1 = 0.032 < \alpha_1$ $P_2 = 0.015 < \alpha_1 + \alpha_2$

3. ?????????????

α Pocock O'Brien-Fleming Haybittle-Peto
 α_i
 α Lan-DeMets α
 α
 α
 α 75%
 α O'Brien Fleming Lan-DeMets α FWER
 0.05 0.019 0.044

FWER
 FWER

????????????

Mantel-Haenszel χ^2 Kaplan-Meier
 Bonferroni α_i

LSD SNK Dunnett
 Kaplan-Meier log-rank Mantel-Cox Breslow
 Wilcoxon FWER
 Bonferroni α

中文	英文
α 分配	α Allocation
α 消耗	α Spending
α 消耗函数	α Spending Function
I类错误	Type I Error
II类错误	Type II Error
多重性	Multiplicity
多重性调整	Multiplicity Adjustment
多重性问题	Multiplicity Issue
多个终点	Multiple Endpoints
亚研究	Substudies
关键次要终点	Key Secondary Endpoint
fallback 方法	Fallback Method
剂量-反应关系	Dose-response Relationship
名义水平	Nominal Level
前瞻性 α 分配方案, PAAS	Prospective Alpha Allocation Scheme, PAAS
守门员程序	Gatekeeping Procedure
图形化方法	Graphical Approach
显著性水平	Significance Level
族错误率, FWER	Familywise Error Rate, FWER

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