

深度索引下Embase中的生物医学文 献检索



关键词检索—说难不难,说易不易

- 常见的医学文献检索需求
 - SSRI(选择性血清素回收抑制剂)治疗抑郁症是否会增加自杀风险?
 - 在皮肤上使用局部麻醉剂是否会缓解新生儿静脉穿刺时的疼痛?
 - 单克隆抗体纯化时, 聚合体去除, 宿主细胞去除

用相关关键词,在一个尽可能大的 数据库中检索是常见的解决手段



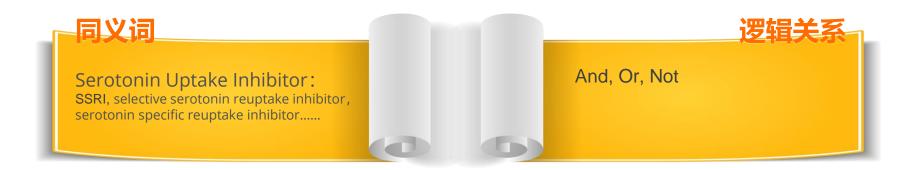
关键词检索—说不完的"矛"与"盾"

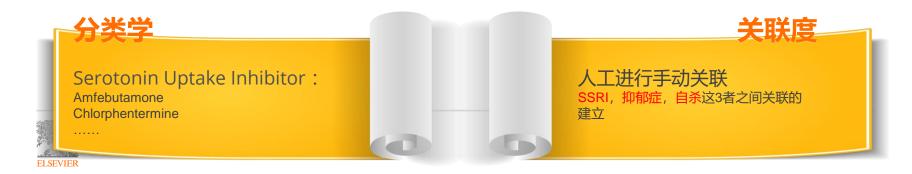




前述问题的分解

命题:使用SSRI(选择性血清素回收抑制剂)治疗抑郁症是否会增加自杀风险?







选择一个尽可能大而全的数据库是最基本的要求



Embase.Com介绍

Embase.Com是领先的生物医学文献数据库,具有最全面的期刊和会议报道,生命科学索引体系和强大的搜索引擎,能帮助科研人员从错综复杂的全文中快速定位最关关键的内容。



Pharma



A&G





Medical Devices



Embase.Com中的内容相比Medline中的内容,更加全面及时

Embase.Com

- 生物医学与健康,专注于药理学、毒理学、药物和 医疗器械
- 8,329 本刊
- 11,500 会议, 3.6M 会议摘要
- 37M+ 记录
- 52% Europe
- 27% North America (check NA + SA)
- 13% Asia-Pacific
- 包括超过98%的MEDLINE内容,以及近2900种独特的期刊

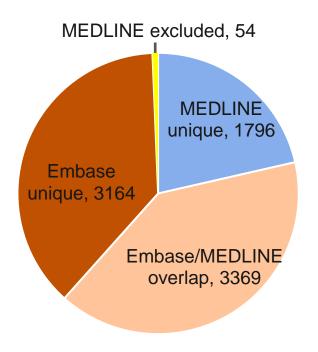
Medline

• 生物医学和健康,包括护理和牙科

- 5,269 本刊
- 无会议记录覆盖
- 26M+ 记录
- 51% Europe
- 38% North America
- 7% Asia-Pacific
- 自2020年3月以来,Medline中仅有不到60本刊,未被 Embase收录(因2019年新规定,所有期刊收录均需 重新授权,目前该60本刊还未收到回复)



Embase.Com中的覆盖范围: MEDLINE和Embase unique



Embase.Com contains:

- Embase.com中含有超过99%的MEDLINE
- · Embase编录了6,533种期刊的索引
- 5,165种活跃的MEDLINE期刊
 - 1796是MEDLINE唯一的, Embase将MeSH 索引 转换为Emtree索引
 - 对于3369种与Embase索引重叠的期刊, 会将PubMed的索引内容传递给Embase, 同时进行标记



Embase包含更多非英语内容

Language*	Total Embase (per year) ¹	MEDLINE uniue (per year) ²	Unique in Embase ³
English	1,984,650	393,142	616,869
Chinese	26,573	10,719	12,032
French	17,930	3,335	8,998
Spanish	15,832	4,349	4,682
Japanese	3,950	1,473	1,189
Russian	6,861	3,955	2,287
Portuguese	4,651	3,196	366
Polish	1,566	385	406
Turkish	2,368	150	1,084
Korean	333	169	159

Search query:

- 1) [1-1-2019]/sd NOT [1-1-2020]/sd AND [english]/lim
- 2) [1-1-2019]/sd NOT [1-1-2020]/sd AND [english]/lim AND [medline]/lim NOT ([embase]/lim AND [medline]/lim) NOT ([embase classic]/lim AND [medline]/lim)
- 3) [1-1-2019]/sd NOT [1-1-2020]/sd AND [english]/lim AND [embase]/lim NOT ([embase]/lim AND [medline]/lim)





Embase包含更多的随机对照试验,尤其是非英语记录

Language	Embase.com ¹	MEDLINE ² (PubMed)	Embase Advantage	Percent
Chinese	12,753	8,804	3,949	45
French	3,545	2,919	626	21
Spanish	3,376	2,439	937	38
Japanese	2,341	1,263	1,078	85
Russian	2,347	2,179	168	8
Portuguese	1,438	842	596	71
Polish	586	381	205	54
Turkish	1,104	116	988	852
Korean	207	89	118	133

- [1] Search query in Embase: [chinese]/lim AND [randomized controlled trial]/lim
- [2] Search query in PubMed: (((("1000/1/1"[Date MeSH] : "3000"[Date MeSH]))) AND (Chinese[Language])) AND ("Randomized Controlled Trial"[Publication Type])
- then filter Journal = MEDLINE





但是:

覆盖全面并不能解决主题检 索中的所有问题



Embase中的词表Emtree是解决关键词检索问题的核心工具



• Emtree

- 使用自然语言术语
- >87,000 推荐词条
 - >33,000 药物词条, >13,000 器械词条
- ~420,000 同义词
- 包含所有的MeSH terms
- 每年3次更新

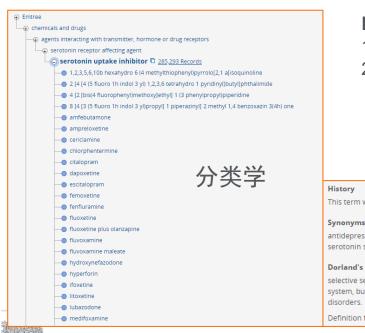


- Medical Subject headings(医学主题词)
- 术语可能是倒置的(e.g. leukemia, myeloid)
- ~29,000 描述词 (headings)
 - 药物词条, 无器械词条
- ~247,000 supplementary concepts
- 一年更新1次



前述问题在Embase中的体现

命题: SSRI(选择性血清素回收抑制剂)治疗抑郁症是否会增加自杀风险?



Embase索引建立步骤:

- Emtree标准化所有的提取词
- 通过词表的解析,了解上下位关系

This term was added to Emtree in 1992.

antidepressants, serotonin specific reuptake inhibitors; selective serotonin reuptake inhibitor; serotonin reuptake inhibitor; serotonin specific reuptake inhibitor; serotonin specific reuptake inhibitors; serotonin uptake inhibitors; SSRI; SSRI antidepressant

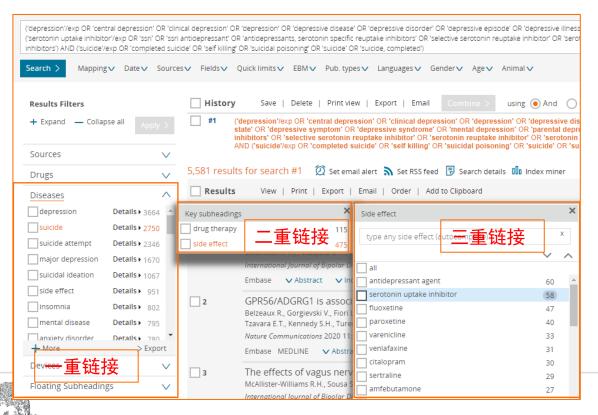
Dorland's dictionary

selective serotonin reuptake inhibitor = any of a group of compounds that inhibit the inactivation of serotonin by blocking its absorption in the central nervous system, but that have only weak or no effects on neuronal uptake of norepinephrine and dopamine; used to treat depressive, obsessive-compulsive, and panic disorders.

Definition from Dorland's Medical Dictionary, 32nd edition, copyright © 2011 by Elsevier. For more information please go to www.dorlands.com



Embase中的三重链接很好的解决了药物、疾病、不良反应之间的关联问题

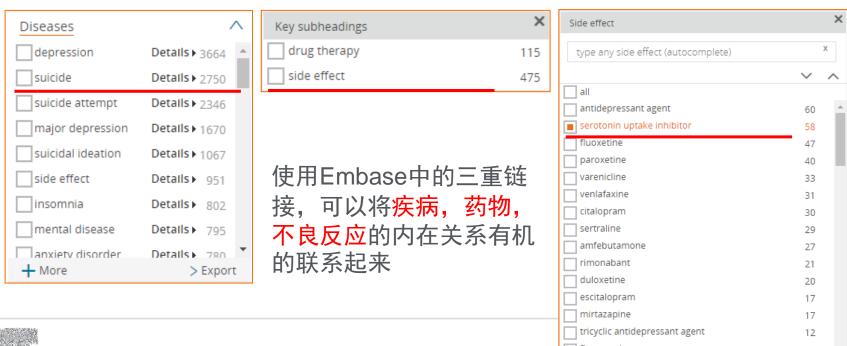


Embase索引建立步骤:

- 1. 构建三重链接,建立关联
- 2. 通过Subheading构建两个 词之间的关系。

前述问题在Embase中的体现

命题: SSRI(选择性血清素回收抑制剂)治疗抑郁症是否会增加自杀风险?

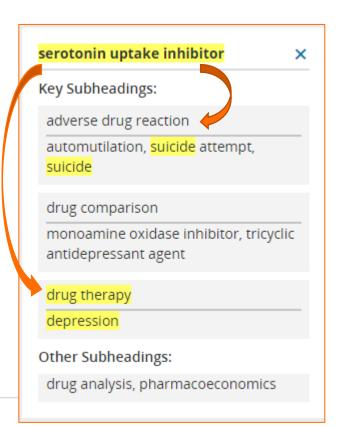




深度索引后检索到的一条比较有意思的文献

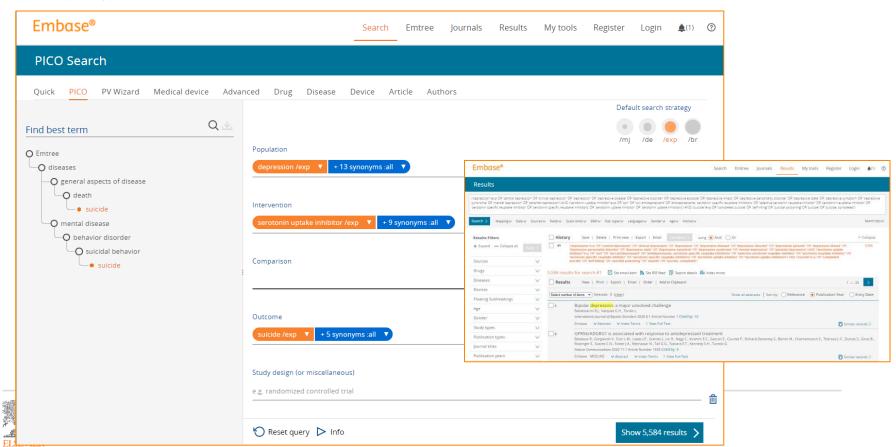
Antidepressant use and risk of suicide and attempted suicide or self harm in people aged 20 to 64: Cohort study using a primary care database BMJ (Online) 2015 350 Article Number h517 Objective To assess the associations between different antidepressant treatments and the rates of suicide and attempted suicide or self harm in people with depression. Design Cohort study. Setting Patients registered with UK general practices contributing data to the QResearch database. Participants 238 963 patients aged 20 to 64 years with a first diagnosis of depression between 1 January 2000 and 31 July 2011, followed up until 1 August 2012. Exposures Antidepressant class (tricyclic and related antidepressants, selective serotonin reuptake inhibitors, other antidepressants), dose, and duration of use, and commonly prescribed individual antidepressant drugs. Cox proportional hazards models were used to calculate hazard ratios adjusting for potential confounding variables. Main outcome measures Suicide and attempted suicide or self harm during follow-up. Results During follow-up. 87.7% (n=209 476) of the cohort received one or more prescriptions for antidepressants. The median duration of treatment was 221 days (interquartile range 79:590 days). During the first five years of follow-up 198 cases of suicide and 5243 cases of attempted suicide or self harm occurred. The difference in suicide rates during periods of treatment with tricyclic and related antidepressants compared with selective serotonin reuptake inhibitors was not significant (adjusted hazard ratio 0.84, 95% confidence interval 0.47 to 1.50), but the suicide rate was significantly increased during periods of treatment with other antidepressants (2.64, 1.74 to 3.99). The hazard ratio for suicide was significantly increased for mirtazapine compared with citalopram (3.70, 2.00 to 6.84). Absolute risks of suicide over one year ranged from 0.02% for amitriptyline to 0.19% for mirtazapine. There was no significant difference in the rate of attempted suicide or self harm with tricyclic antidepressants (0.96, 0.87 to 1.08) compared with selective serotonin reuptake inhibitors, but the rate of attempted suicide or self harm was significantly higher for other antidepressants (1.80, 1.61 to 2.00). The adjusted hazard ratios for attempted suicide or self harm were significantly increased for three of the most commonly prescribed drugs compared with citalogram: venlafaxine (1.85, 1.61 to 2.13), trazodone (1.73, 1.26 to 2.37), and mirrazapine (1.70, 1.44 to 2.02), and significantly reduced for amitriptyline (0.71, 0.59 to 0.85). The absolute risks of attempted suicide or self harm over one year ranged from 1.02% for amitriptyline to 2.96% for venlafaxine. Rates were highest in the first 28 days after starting treatment and remained increased in the first 28 days after stopping treatment. Conclusion Rates of suicide and attempted suicide or self harm were similar during periods of treatment with selective serotonin reuptake inhibitors and tricyclic and related antidepressants. Mirtagapine, veniafaxine, and trazodone were associated with the highest rates of suicide and attempted suicide or self harm, but the number of suicide events was small leading to imprecise estimates. As this is an observational study the findings may reflect indication biases and residual confounding from severity of depression and differing characteristics of patients prescribed these drugs. The increased rates in the first 28 days of starting and stopping antidepressants emphasise the need for careful monitoring of patients during these periods. © BMJ Publishing Group Ltd 2015.

Embase很好的将SSRI,治疗Depression,以及带来的不良反应Suicide很好的结合起来

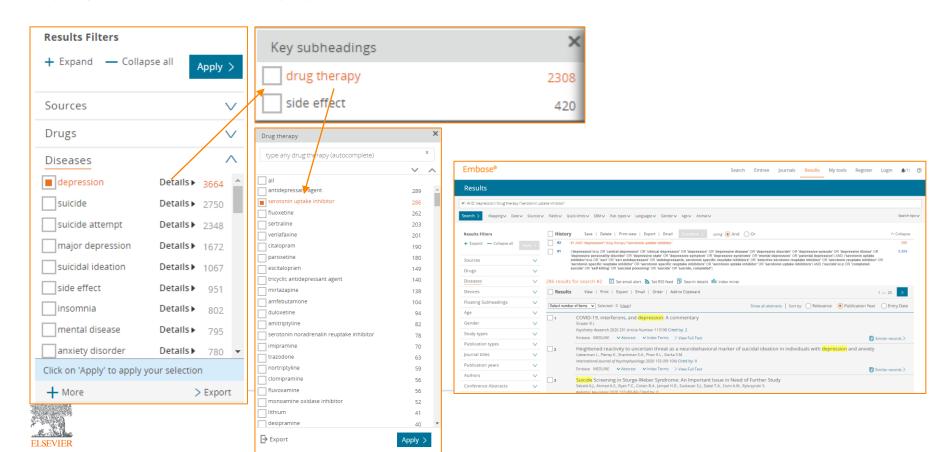




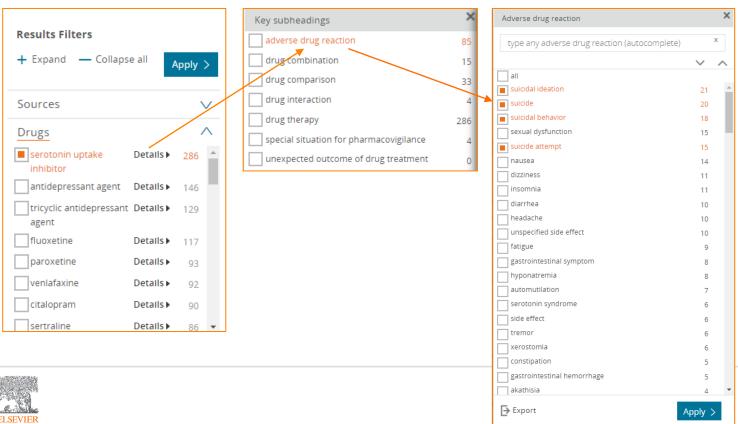
检索步骤



寻找 "SSRI"和"抑郁"之间的关系



继续寻找 "SSRI"和"自杀"之间的关系



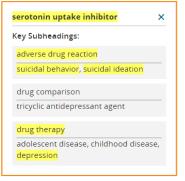


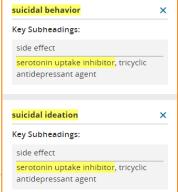
最后的结果

Embase®	2	Search Emtree Journals	Results My	tools Register	Login	(1)
Results						
#1 AND 'depression'/'drug therapy'/'serotonin uptake inhibitor' ANI) 'serotonin uptake inhibitor'/adverse drug reaction'/suicidal behavior','suicidal ideation','suicide','suicide attempt					
Search > Mapping ∨ Date ∨ Sources ∨ Fields ∨ Qu	ck limits v EBM v Pub. types v Languages v Gender v Age v Animal v					Search tips 🗸
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	M AND 'depression'/'drug therapy/'serotonin uptake inhibitor'					286
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paroxetine Detalls ▶ 23 Select number	r of items 🔻 Selected: 0 (<u>clear</u>)	Show all abstracts Sort b	y: Relevance	Publication Year	○ Entry	Date
☐ tricyclic antidepressant Details ► 19 ☐ 1	Latest thinking on antidepressants in children and young people Dubicka B., Wilkinson P.O.					
venlafaxine DetaIls ► 18	Archives of Disease in Childhood 2018 103:8 (720-721) Cited by: 4					
citalopram Detalls ▶ 17 ▼	Embase MEDLINE [No abstract available] Vindex Terms > View Full Text			₽ S	imilar record	ds >
+ More > Export 2	Antidepressants and the adolescent brain					
Diseases	Cousins L., Goodyer I.M. Journal of Psychopharmacology 2015 29:5 (545-555) Cited by: 19					
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Floating Subheadings	Assessing the overuse of medicines					
Age	Busfield J.					
Gender	Social Science and Medicine 2015 131 (199-206) Cited by: 27					
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更多有意思的记录











Thank you

