OVERVIEW

Influencing factors of falls among older adults in Chinese retirement institutions: A systematic review and meta-analysis

Xiaoxing Huang¹, Yunlan Jiang²*, Yaxin Liu¹, Liyin Shen¹, Jing Pan¹, Yue Zhang¹

1 College of Nursing, Chengdu University of Traditional Chinese Medicine, Chengdu City, Sichuan Province, China, 2 Hospital of Chengdu University of Traditional Chinese Medicine, Chengdu City, Sichuan Province, China

* hannalx981014@163.com

Abstract

Background

The incidence of falling has always been high among the elderly, and it was easy to cause injuries to the elderly and seriously affect their quality of life. There were many studies have been conducted on risk factors affecting the fall of the elderly, but the results widely, retirement institutions as a gathering place for the elderly, there was currently no comprehensive analysis of the factors related to elderly falls in pension institutions. This study aimed to explore the influencing factors of falls among older adults in Chinese nursing homes.

Methods

Chinese and English databases were searched for literature published from database inception to 5 April 2023 on the influencing factors of falls among older adults in Chinese nursing homes. Two reviewers independently screened articles, extracted data, and assessed the quality of the included studies. Meta-analysis was performed using RevMan 5.4 software.

Results

Eleven studies involving 3503 participants were included in the meta-analysis. The pooled estimate of falls among older adults in Chinese nursing homes was 32% [95% confidence interval (95%CI) (24.0%, 39.0%)]. The main influencing factors for falls among older adults in Chinese nursing homes were age (Odds Ratio (OR) = 1.53), gender (OR = 5.50), visual impairment (OR = 2.30), sedative-hypnotics (OR = 2.36), fear of falling (OR = 2.95), hypertension (OR = 3.72), static balance (OR = 2.02), three or more chronic diseases (OR = 5.63), cognitive status (OR = 2.64), walking aid use (OR = 1.98), fall-related chronic diseases (OR = 2.48), self-awareness of abilities (OR = 2.43), and frequent reminders for fall prevention (OR = 0.10).



GOPEN ACCESS

Citation: Huang X, Jiang Y, Liu Y, Shen L, Pan J, Zhang Y (2023) Influencing factors of falls among older adults in Chinese retirement institutions: A systematic review and meta-analysis. PLoS ONE 18(12): e0296348. https://doi.org/10.1371/journal. pone.0296348

Editor: De-Chih Lee, Dayeh University, TAIWAN

Published: December 27, 2023

Copyright: © 2023 Huang et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Data Availability Statement: All relevant data are within the paper and its <u>Supporting Information</u> files.

Funding: This work was supported by Medical science and technology Project of Sichuan Provincial Health Commission [grant number:21ZD007] The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Competing interests: The authors have declared that no competing interests exist.

Conclusion

Falls among older adults in Chinese nursing homes were common, and there were many influencing factors. Timely screening and intervention should be implemented to reduce the adverse consequences of falls on older adults.

Trial registration

Registration number: CRD42023421099.

1 Introduction

The results of China's seventh national census showed that the population of elderly people aged 60 and above has reached 264 million, accounting for 18.7% of the total population [1]. With the increasing number of only children and the majority of them working outside their hometowns, home-based elderly care can no longer meet the social demands of contemporary society. As a result, more and more elderly people are choosing to live in elderly care institutions [2, 3].

Falling is an unintentional act of falling to the ground or a lower surface, but does not include violence, loss of consciousness, paralysis, or seizures as causes [4]. As the most common injurious behavior, it was a major health problem faced by older people worldwide. It has the highest incidence and mortality rates in accidental injuries among older people, not only causing physical and mental harm but also seriously affecting their quality of life. Falling also imposed heavy economic and care burdens on families and society [5–7].

Research has shown that the incidence of falls among elderly people living in elderly care institutions is higher, with a rate of 30% to 50%, which was three times higher than that of elderly people in the community. The annual incidence rate of falls in people aged 65 and above exceeded 50%, and 4% to 15% of falls result in serious injuries [8, 9]. Some studies conducted meta-analysis on fall-related factors of the elderly suffering from different diseases such as hypertension and stroke, or conducted quantitative and comprehensive analysis on the overall fall rate of the elderly in China. At the same time, due to the influence of research location and social environment, the fall rate and related influencing factors obtained in the existing literature are different, and there is a lack of a comprehensive quantitative analysis. No studies on the influencing factors of falls among older adults in Chinese retirement institution have been found. Therefore, it was necessary to comprehensively understand the influencing factors of falls among elderly people in Chinese elderly care institutions and provide targeted care. The aim of this study is to explore the influencing factors of falls among elderly people in Chinese institutions and provide targeted care. The aim of this study is to explore the influencing factors of falls among elderly people in Chinese institutions.

2 Materials and methods

2.1. Registration

The protocol of this review was registered in the International Prospective Register of Systematic Overview (PROSPERO) database (https://www.crd.york.ac.uk/PROSPERO/), registration number: CRD42023421099.

2.2. Ethics

Ethics approval is not required in Meta-analysis.

2.3 Literature search strategy

The literature search strategy included comprehensive searches of several databases, including Chinese Biomedical Literature Database (CBM, http://www.sinomed.ac.cn/index.jsp), China National Knowledge Infrastructure (CNKI, https://www.cnki.net/), VIP Database (http://lib. cqvip.com/) and Wanfang Database (https://new.wanfangdata.com.cn/index.html), Embase, Web of Science, The Cochrane Library, and PubMed, up to 5 April 2023, for cross-sectional studies, cohort studies, and case-control studies related to the influencing factors of falls among elderly residents in Chinese retirement institutions. In addition, relevant references from the included articles were manually searched and added. The English search strategy was determined as follows: (the aged OR elder people OR senior citizens OR old folks OR the elderly OR old people) AND (senior housing OR senior center OR residential aged care facility OR old age homes OR nursing home residents OR old-age care institutions OR the old folk's homes OR retirement home OR rest home) AND (falls OR falling OR accidental fall OR slip and fall) AND (risk factor OR predictor OR influencing factor OR protective factor OR promotive factor OR correlate).

2.4 Inclusion and exclusion criteria for literature selection

2.4.1 Inclusion criteria for literature selection. (1) Study population: Elderly individuals aged 60 years and above; (2) Study topic: Falls and their influencing factors among elderly residents in Chinese nursing homes; (3) Study design: Cross-sectional studies, case-control studies, or cohort studies; (4) Articles must report the Odds Ratios (ORs) and 95% Confidence Intervals (CIs) of relevant influencing factors; (5) Articles must be published in either Chinese or English and available online.

2.4.2 Exclusion criteria for literature selection. (1) Studies with a quality score of less than 4 points, indicating low-quality research; (2) Studies for which the full text or sufficient data cannot be obtained; (3) Duplicate publications of the same study; (4) Conference abstracts, systematic reviews, animal experiments, case reports, experience summaries, or other types of non-original research articles.

2.5 Article screening and data extraction

All searched literature was imported into the Endnote X9 software, and two researchers independently conducted title and abstract screening, as well as full-text reading to perform the initial and secondary screening of literature and extract relevant information. In case of any discrepancies, they would be resolved through discussion or consultation with a third party. The information extracted will include the author, year of publication, study location, study design, sample size, rate of falling, relevant factors, quality score, and other relevant information.

2.6 Quality assessment

The Newcastle-Ottawa scale (NOS) [10] is used to evaluate case-control and cohort studies. It consists of eight items, with scores ranging from7 to 9 indicating high-quality literature, 5 to 6 indicating moderate-quality literature, and 0 to 4 indicating low-quality literature. The Agency for Healthcare Research and Quality (AHRQ) [11] in the United States uses a similar scale to evaluate cross-sectional studies, with total scores ranging from 8 to 11 indicating high-quality

studies, 4 to 7 indicating moderate-quality, and 0 to 3 indicating low-quality. Methodological quality evaluation is independently conducted by two evaluators. In the event of disagreements, they can resolve them through discussion or have a third researcher make the final decision.

2.7 Statistical analysis

Descriptive analysis was used in most sections to report relevant content, and the statistical software package RevMan 5.4 was used to analyze quantitative data extracted from each study. OR values and their 95% CIs were used for statistical combination, and the χ^2 test (with a significance level of $\alpha = 0.1$) combined with I² value was used to determine the degree of heterogeneity. If P \leq 0.1 and I²>50%, a random effects model was used for meta-analysis; otherwise, a fixed effects model was used for meta-analysis. Descriptive analysis was used for influencing factors that were not suitable for meta-analysis. Sensitivity analysis was conducted for each influencing factor by transforming different effect models. If the number of studies was \geq 10, Egger's test and Begg's test were used to evaluate publication bias in the literature.

3 Results

3.1 Literature search results

A total of 2185 literature sources were initially retrieved, including 606 in Chinese and 1579 in English. Literature sources were then screened step by step, and 11 studies [12–22] were ultimately included in the present study. The literature screening process is shown in Fig 1.

3.2 Characteristics of included literature and results of literature quality assessment

A total of 11 literature sources with a combined sample size of 3503 were included in the analysis, with 1126 cases in the fall group and 2377 cases in the non-fall group. The NOS scores for the case-control and cohort studies were both \geq 5 points, and the AHRQ scores for the cross-sectional studies were all \geq 4 points, all studies included in the analysis were of medium to high quality, indicating that the literature quality met the requirements. The main information extracted from the literature sources is shown in Table 1.

3.3 The fall rate of elderly residents in Chinese retirement institutions

The final inclusion in the literature review consisted of a one-to-one case-control study that did not involve fall rates. Therefore, a quantitative synthesis was conducted specifically for the fall rates mentioned in the remaining ten studies. The analysis results showed that the fall rate of elderly residents in Chinese nursing homes was 32% [95%CI (0.24, 0.39), P < 0.001] (Fig 2).

3.4 Influencing factors and results

3.4.1 Meta-analysis results. Two or more study reporting the same influencing factors were combined using RevMan5.4 software, and 17 influencing factors related to falls among elderly residents in nursing homes were included in the quantitative analysis. The meta-analysis results showed that age (OR = 1.53, 95%CI = 1.09-2.15), gender(OR = 5.50, 95%CI = 1.85-16,37), visual impairment(OR = 2.30,95%CI = 1.33-3.97), sedatives-hypnotics(OR = 2.36,95%CI = 1.84-3.04, fear of falling(OR = 2.95, 95%CI = 1.80-4.83), hypertension(OR = 3.72, 95%CI = 2.20-6.31), postural balance(OR = 2.02, 95%CI = 1.75-2.33), three or more chronic diseases(OR = 5.63, 95%CI = 2.74-11.57), cognitive status(OR = 2.63, 95%CI = 1.73-4.03), walking aids(OR = 1.98, 95%CI = 1.82-2.15), fall-related chronic diseases(OR = 2.48, 95%



Fig 1.

https://doi.org/10.1371/journal.pone.0296348.g001

CI = 1.82–3.38), self-awareness of abilities(OR = 2.43, 95%CI = 2.18–2.71), being frequently reminded to prevent falls(OR = 0.10, 95%CI = 0.04–0.24), were statistically significant factors related to falls among elderly residents in Chinese nursing homes(P<0.05). However, indoor lighting, regular physical exercise, and sleep were not significantly associated with falls. Please refer to Table 2 for details. And the forest plot for 13 influencing factors refer to Fig 3 (From Fig 3A to 3M).

First authors	Year	Region	Study design	The survey time periods	The time periods for falls	Fall example	Non-fall example	Total sample size	Fall rate (%)	Factors	Quality assessment tool	Quality score
Li Cuizha	2022	Kunming City	Cross- sectional study	May to July 2021		82	141	223	36.77	adn	AHRQ	7
Feng Wenting	2022	Xinyang,	Cross- sectional study	April to October 2020	In the past year	107	324	431	24.83	abcfjklmno	AHRQ	8
Lin Shuang	2021	Shenyang,	Cross- sectional study	July to September 2018	In the past year	114	569	683	16.70	cjo	AHRQ	9
Hu Huiju	2021	Tangshan,	Cross- sectional study	August to November 2020	In the past year	223	267	490	45.50	aelp	AHRQ	8
Cheng Xiao	2020	Chenzhou	Cross- sectional study	October to December 2018	In the past year	41	79	120	34.16	cghi	AHRQ	6
Zhang L	2019	Xiamen	Cross- sectional study	June to September 2016	In the past year	69	149	218	31.65	dgikl	AHRQ	8
Liang Danyan	2017	Hohhot	Cross- sectional study		August 2015 to August 2016	27	63	90	30.00	bfmp	AHRQ	7
Zhao Ming	2016	Hangzhou	Cross- sectional study		November 2012 to October 2013	48	322	370	12.97	ae	AHRQ	6
Zhang Yu	2016	Urumqi	Cross- sectional study	June to December 2015	In the past year	232	264	496	46.77	cdgnq	AHRQ	7
Chen Yang	2014	Nanjing City	Cross- sectional study	October 2012 to January 2013	In the past year	29	45	74	39.19	dkq	AHRQ	5
Liu Yongyi	2002	Beijing	1:1 Case- control study		Within the past 18 months.	154	154	308		dfgh	NOS	7

Note: "——" indicates not applicable; AHRQ = Agency for Healthcare Research and Quality; NOS = Newcastle-Ottawa Scale; a = age; b = gender; c = visual impairment;d = sedative-hypnotic medication; e = reduced activity due to fear of falling; f = hypertension; g = static balance; h = three or more chronic conditions; i = cognitive status; j = mobility aid; k = fall-related chronic conditions; l = activities of daily living; m = indoor lighting; n = regular physical exercise; o = realistic self-perception; p = frequently reminded to prevent falls; q = sleep.

https://doi.org/10.1371/journal.pone.0296348.t001

3.4.2 Descriptive analysis. The studies [12–14, 17, 18, 22] have identified that the use of analgesics, arthritis, osteoporosis, dizziness, poor overall health assessment, no spouse, post-stroke sequelae, sensory loss, wearing slippers, drinking alcohol, and taking four or more medications are factors influencing falls among elderly residents in nursing homes. However, due to the limited number of studies on these influencing factors, only qualitative descriptions can be provided.

3.4.3 Sensitivity and publication bias analysis. According to the sensitivity analysis conducted using the transformation model, the consistency of all influencing factors was found to be stable, indicating that the results are stable and reliable (Table 2). Since the number of studies included for each influencing factor is less than 10, and the significance of publication bias for the literature on fall rates is low, no publication bias analysis was conducted.

Study								v	Effect si vith 95%	ze Cl	Weight (%)
Li Cuizha 2022					+	_		0.3	7 [0.30,	0.43]	10.03
Feng Wenting 2022				-	F			0.2	5[0.21,	0.29]	10.49
Lin Shuang 2021								0.1	7 [0.14,	0.19]	10.68
Hu Huiju 2021					į	-	-	0.46	6[0.41,	0.50]	10.44
Cheng Xiao 2020					-	-		0.34	4 [0.26,	0.43]	9.45
Zhang,L 2019					-	_		0.3	2 [0.25,	0.38]	10.06
Liang Danyan 2017				_		-		0.30	0[0.21,	0.39]	9.16
Zhao Ming 2016			-	ŀ				0.13	3 [0.10,	0.16]	10.60
Zhang Yu 2016					i	H	-	0.4	7 [0.42,	0.51]	10.44
Chen Yang 2014					+			0.39	9 [0.28,	0.50]	8.65
Overall					-			0.3	2 [0.24,	0.39]	
Heterogeneity: $\tau^2 = 0.01$, $I^2 = 95.42\%$, $H^2 = 21.83$											
Test of $\theta_i = \theta_j$: Q(9) = 282.21, p = 0.00											
Test of θ = 0: z = 8.54, p = 0.00											
	-0.1	0	0.1	0.2	0.3	0.4	0.5	0.6			
Random-effects REML model											

Fig 2.

https://doi.org/10.1371/journal.pone.0296348.g002

4 Discussion

After comprehensive search and strict literature screening, this Meta-analysis included 11 articles consisting of 10 cross-sectional studies and 1 case-control study, all of which clearly stated the inclusion and exclusion criteria of the investigated subjects and the factors influencing falls. The quality of the literature meets the requirements, and the statistical methods used are correct. Therefore, the meta-analysis has high credibility.

4.1 The incidence of falls among elderly residents in Chinese nursing homes is relatively high

A total of 11 Chinese literature on factors influencing falls among elderly residents in nursing homes were included in this study, comprising 3,503 research subjects from 11 provinces, cities, and autonomous regions in China. Meta-analysis results showed that the incidence of falls among elderly residents in Chinese nursing homes was 32% [95% CI (24%, 39%), P < 0.001].

4.2 Analysis of factors influencing falls among elderly residents in Chinese nursing homes

4.2.1 General factors. The results of this study show that age, gender, and poor static balance are risk factors for falls among elderly residents in nursing homes. As the body's physiological functions decline and organs age with increasing age, reaction time lengthens and various balance abilities deteriorate, leading to a higher incidence of falls and more severe injuries after falls [23]. Females experience a decline in estrogen levels after menopause, which

Influencing Factors	Number of included studies	Heterogeneity test results		Meta-ar	Sensitivity analysis		
		$I^{2}(\%)$	Р	effect model	OR (95%CI)	OR (95%CI)	
Age (≥ 60 years old)	4	90	< 0.00001	random	1.53 (1.09, 2.15) *	1.07 (1.03, 1.10)	
gender	2	0	0.49	fixed	5.50 (1.85,16.37) *	5.50 (1.85,16.37)	
visual impairment	4	82	0.001	random	2.30 (1.33, 3.97) *	2.52 (2.05, 3.11)	
sedative-hypnotics use	5	0	0.75	fixed	2.36 (1.84, 3.04) *	2.36 (1.84, 3.04)	
reduced activity due to fear of falling	2	36	0.21	fixed	2.95 (1.80, 4.83) *	2.97 (1.60, 5.51)	
hypertension	3	0	0.42	fixed	3.72 (2.20, 6.31) *	3.72 (2.20, 6.31)	
postural balance	4	0	0.59	fixed	2.02 (1.75, 2.33) *	2.02 (1.75, 2.33)	
having three or more chronic diseases	2	0	0.73	fixed	5.63(2.74, 11.57) *	5.63(2.74, 11.57)	
cognitive status	2	0	0.49	fixed	2.64 (1.73, 4.03) *	2.64 (1.73, 4.03)	
walking aids	2	0	0.4	fixed	1.98 (1.82, 2.15) *	1.98 (1.82, 2.15)	
fall-related chronic diseases	3	0	0.4	fixed	2.48 (1.82, 3.38) *	2.48 (1.82, 3.38)	
activities of daily living	3	88	0.0003	random	1.26 (0.38, 4.16)	1.64 (1.23, 2.18)	
indoor lighting	2	95	< 0.0001	random	1.25 (0.02, 94.64)	6.72 (3.70, 12.22)	
regular physical exercise	3	85	0.001	random	1.38 (0.44, 4.33)	1.24 (0.80, 1.92)	
self-awareness of abilities	2	0	0.37	fixed	2.43 (2.18, 2.71) *	2.43 (2.18, 2.71)	
being frequently reminded to prevent falls	2	0	0.82	fixed	0.10 (0.04, 0.24) *	0.10 (0.04, 0.24)	
sleep	2	86	0.009	random	0.92 (0.27, 3.06)	1.36 (0.99, 1.85)	

Table 2. Meta-analysis and sensitivity analysis results of factors influencing falls among elderly residents in Chinese nursing homes.

Note

*P<0.05.

https://doi.org/10.1371/journal.pone.0296348.t002

increases the risk of osteoporosis, while female muscle strength and physique are relatively poor compared to males [24]. This is consistent with the results of previous studies conducted by Yao Yuhua et al. [25], which found that older women have a higher risk of falls. An unstable gait can easily lead to a loss of balance and falls, which is consistent with the results of Wang Liancheng's study [26]. Therefore, as a place where elderly people live together, nursing homes should strengthen the care of high-risk groups for falls and regularly provide rehabilitation training targeted at improving balance ability to prevent falls.

4.2.2 Disease-related factors. As the elderly population ages, the risk of developing multiple chronic diseases gradually increases. Studies have shown that the prevalence of chronic diseases among elderly people in China is 43.6% [27]. The results of this study showed that the risk factors for falls among elderly people in Chinese nursing homes include having a fallrelated chronic disease (OR = 2.48) and having three or more chronic diseases (OR = 5.63). However, due to limitations in the available data from the literature included in this study, specific types of chronic diseases were not analized. The study shows that visual impairment (OR = 2.30) is a risk factor for falls, and factors affecting vision include cataracts, glaucoma, retinal vascular disease, age-related macular degeneration, and diabetic retinopathy [28]. Compared to adults with normal vision, adults with visual impairment are 1.7 times more likely to fall and 1.9 times more likely to fall multiple times [29]. Hypertension (OR = 3.72) is also a contributing factor to falls in elderly residents of nursing homes, with over half of middle-aged and elderly people in China suffering from the condition. Hypertension, combined with a decrease in blood pressure regulation ability, the presence of other diseases, and the use of antihypertensive drugs, can lead to non-physiological changes in blood pressure fluctuation amplitude and frequency, making individuals more susceptible to dizziness and increasing the risk of falls [30, 31], which is consistent with the results of a study by Zhang Di [32]. Weiner

Study or Subaroun				Odds Ratio	Odds R	latio	
Feng Wenting 2022	0 39204209	0.08380206	31.4%	IV. Random, 95% C	I IV, Random	a, 95% CI ■-	
Hu Huiju 2021	0.90016135	0.2796587	18.0%	2.46 [1.42, 4.26	i l		
Li Cuizha 2022 Zhao Ming 2016	0.76546784 0.04305949	0.30084214 0.0180722	16.8% 33.8%	2.15 [1.19, 3.88	- -		
						•	
Total (95% CI) Heterogeneity: Tau ² = 0	0.09: Chi [#] = 31.04.	df= 3 (P < 0.0	100.0% 0001): I ² :	1.53 [1.09, 2.15] = 90%	' 	•	
Test for overall effect: 2	Z = 2.47 (P = 0.01)				Favours [experimental]	avours [control]	10
				Odds Ratio	Odds R	atio	
Study or Subgroup	log[Odds Ratio]	SE	Weight	IV, Fixed, 95% CI	IV, Fixed,	95% CI	
Feng Wenting 2022	2.36499635	1.10919014	25.1%	10.64 [1.21, 93.59]		_	
						_	
Total (95% CI)	0.47 df = 1 (P = 0 /	(0)· IZ = 0%	100.0%	5.50 [1.85, 16.37]		-	
Test for overall effect 2	Z = 3.07 (P = 0.002	:)			0.01 0.1 1 Favours lexperimental	10 avours (control)	10
				Odds Ratio	Odds B	atio	
Study or Subgroup	log[Odds Ratio]	SE	Weight	IV, Random, 95% C	I IV, Random	a, 95% CI	
Cheng Xiao 2020	1.09225882	0.5562951	14.3%	2.98 [1.00, 8.87		-	
Lin Shuang 2021	0.50561206	0.22722741	27.3%	1.66 [1.06, 2.59	i –	•	
Zhang Yu 2016	0.45615822	0.21018459	28.0%	1.58 [1.05, 2.38	i F	•	
Total (95% CI)			100.0%	2.30 [1.33, 3.97]		+	
Heterogeneity: Tau ² = (0.23; Chi ² = 16.26,	df = 3 (P = 0.0	01); l ² = 8	2%	0.01 0.1 1	10	10
restion overall ellect. 2	L = 2.88 (r = 0.003)	,			Favours (experimental)	Favours [control]	
~		05		Odds Ratio	Odds R	atio	
Study or Subgroup Chen Yang 2014	0.83768033	0.35435259	12.9%	2 31 [1 15 4.63]	IV, Fixed, 9	95% CI	
Li Cuizha 2022	0.04783733	1.41952051	0.8%	1.05 [0.06, 16.95]			
Liu Yongyi 2002 Zhang L 2010	1.1442228	0.34916736	13.3%	3.14 [1.58, 6.23]			
Zhang Yu 2016	0.66526198	0.22371724	40.5% 32.4%	2.36 [1.74, 3.82] 1.94 [1.25, 3.02]	-	÷	
Total (95% CB			100.00	23614.04.20**		•	
Heterogeneity: Chi ² = 1	1.94, df = 4 (P = 0.	75); I² = 0%	100.0%	2.30 [1.84, 3.04]	1	-	
Test for overall effect: 2	Z = 6.75 (P < 0.000	001)			Favours (experimental) F	10 avours (control)	10
				Odds Patio	Odde D	atio	
Study or Subgroup	log[Odds Ratio]	SE	Weight	IV, Fixed, 95% CI	IV, Fixed, 9	95% CI	
Hu Huiju 2021	1.41585316	0.3684136	46.9%	4.12 [2.00, 8.48]		_	
∠nao Ming 2016	0.78481437	U.34648631	53.1%	2.19 [1.11, 4.32]	-		
Total (95% CI)			100.0%	2.95 [1.80, 4.83]		•	
Heterogeneity: Chi ² = "	1.56, df = 1 (P = 0.	21); I ² = 36%			0.01 0.1 1	10	10
restion overall ellect.	2 - 4.28 (P < 0.00)	01)			Favours [experimental] F	avours [control]	
				Odds Ratio	Odds R	atio	
Study or Subgroup	log[Odds Ratio]	0 71926666	Weight 14.0%	IV, Fixed, 95% CI	IV, Fixed, 9	95% CI	
Liang Danyan 2017	2.07781522	0.72837439	13.7%	7.99 [1.92, 33.29]			
Liu Yongyi 2002	1.10856262	0.3166592	72.3%	3.03 [1.63, 5.64]			
Total (95% CI)			100.0%	3.72 [2.20, 6.31]		+	
Heterogeneity: Chi ² = 1	1.72, df = 2 (P = 0.	42); I ² = 0%			0.01 0.1 1	10	10
Test for overall effect a	Z = 4.88 (P < 0.000	JU1)			Favours (experimental) F	avours [control]	
				Odds Ratio	Odds Ba	tio	
Study or Subgroup							
AL	log[Odds Ratio]	SE	Weight	IV, Fixed, 95% CI	IV, Fixed, 9	5% CI	
Cheng Xiao 2020 Liu Yongvi 2002	log[Odds Ratio] 1.0602179 1.11841492	0.4258231 0.43578667	Weight 2.9% 2.8%	N, Fixed, 95% Cl 2.89 [1.25, 6.65] 3.06 [1.30, 7.19]	IV, Fixed, 99	5% CI	
Cheng Xiao 2020 Liu Yongyi 2002 Zhang,L 2019	log[Odds Ratio] 1.0602179 1.11841492 0.67243414	SE 0.4258231 0.43578667 0.07643542	Weight 2.9% 2.8% 90.6%	V, Fixed, 95% Cl 2.89 [1.25, 6.65] 3.06 [1.30, 7.19] 1.96 [1.69, 2.28]	IV, Fixed, 9	5% CI	
Cheng Xiao 2020 Liu Yongyi 2002 Zhang,L 2019 Zhang Yu 2016	Iog[Odds Ratio] 1.0602179 1.11841492 0.67243414 0.84457988	SE 0.4258231 0.43578667 0.07643542 0.37731242	2.9% 2.8% 90.6% 3.7%	N, Fixed, 95% Cl 2.89 [1.25, 6.65] 3.06 [1.30, 7.19] 1.96 [1.69, 2.28] 2.33 [1.11, 4.87]	IV, Fixed, 9 	5% CI	
Cheng Xiao 2020 Liu Yongyi 2002 Zhang L 2019 Zhang Yu 2016 Total (95% CI)	Iog[Odds Ratio] 1.0602179 1.11841492 0.67243414 0.84457988	SE 0.4258231 0.43578667 0.07643542 0.37731242	Weight 2.9% 2.8% 90.6% 3.7% 100.0%	IV, Fixed, 95% CI 2.89 [1.25, 6.65] 3.06 [1.30, 7.19] 1.96 [1.69, 2.28] 2.33 [1.11, 4.87] 2.02 [1.75, 2.33]	IV, Fixed, 9 	5% <u>CI</u>	
Cheng Xiao 2020 Liu Yongyi 2002 Zhang,L 2019 Zhang Yu 2016 Total (95% CI) Heterogeneity: Chi ² = 1 Test for overall effect. 2	Iog[Odds Ratio] 1.0602179 1.11841492 0.67243414 0.84457988 1.91, df = 3 (P = 0.5 Z = 9.66 (P < 0.000	SE 0.4258231 0.43578667 0.07643542 0.37731242 59); P = 0% 01)	Weight 2.9% 2.8% 90.6% 3.7% 100.0%	IV. Fixed, 95% CI 2.89 [1.25, 6.65] 3.06 [1.30, 7.19] 1.96 [1.69, 2.28] 2.33 [1.11, 4.87] 2.02 [1.75, 2.33]	M, Fixed, 9 	5% CI → ↓ 10 10 10	10
Cheng Xiao 2020 Liu Yongyi 2002 Zhang,L 2019 Zhang Yu 2016 Total (95% CI) Heterogeneity: Chi ² = 1 Test for overall effect: 2	IogIOdds Ratio1 1.0602179 1.11841492 0.67243414 0.84457988 1.91, df= 3 (P = 0.5 Z = 9.66 (P < 0.000	SE 0.4258231 0.43578667 0.07643542 0.37731242 59); P = 0% 01)	Weight 2.9% 2.8% 90.6% 3.7% 100.0%	M. Fixed, 95% CI 2.89 [1.25, 6.65] 3.06 [1.30, 7.19] 1.96 [1.69, 2.28] 2.33 [1.11, 4.87] 2.02 [1.75, 2.33]	M, Fixed, 9 	CI TO TO TO TO TO	10
Cheng Xiao 2020 Liu Yongyi 2002 Zhang JL 2019 Zhang Yu 2016 Total (95% CI) Heterogeneity: Chi ² = 1 Test for overall effect: 2 Study or Subgroup	Iog[Odds Ratio] 1.0602179 1.11841492 0.67243414 0.84457988 1.91, df= 3 (P = 0.5 Z = 9.66 (P < 0.000 Iog[Odds Ratio]	SE 0.4258231 0.43578667 0.07643542 0.37731242 i9); P = 0% 01) SE	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight	M. Fixed, 95% CI 2.89 [1.25, 6.65] 3.06 [1.30, 7.19] 1.96 [1.69, 2.28] 2.33 [1.11, 4.87] 2.02 [1.75, 2.33] Odds Ratio IV. Fixed, 95% CI	M. Fixed, 9 .01 0.1 1 Favours [experimental] Fa	5% CI ↓ 10 ivours [control] atio 25% CI	1(
Cheng Xiao 2020 Liu Yongyi 2002 Zhang, L 2019 Zhang Yu 2016 Total (95% CI) Heterogeneity: Chi ² = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2020	<u>log(Odds Ratio)</u> 1.0602179 1.11841492 0.67243414 0.84457988 1.91, df= 3 (P = 0.5 Z= 9.66 (P < 0.000 <u>log(Odds Ratio)</u> 1.62491748	SE 0.4258231 0.43578667 0.07643542 0.37731242 59); P = 0% 01) SE 0.47717543	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight 59.3%	M. Fixed, 95% CI 2.89 (1.25, 6.65) 3.06 (1.30, 7.19) 1.96 (1.69, 2.28) 2.33 (1.11, 4.87) 2.02 (1.75, 2.33) COdds Ratio M. Fixed, 95% CI 5.08 (1.99, 12.94)	M. Fixed, 9 	5% CI 10 10 10 10 10 10 10 10 10 10	1(
Cheng Xiao 2020 Liu Yongyi 2002 Zhang, L 2019 Zhang Yu 2016 Total (95% CI) Heterogeneity. Chi ² = 1 Test for overall effect. 2 <u>Study or Subgroup</u> Cheng Xiao 2020 Liu Yongyi 2002	Log(Odds Ratio) 1.0602179 1.11841492 0.67243414 0.84457988 1.91, df = 3 (P = 0.5 Z = 9.66 (P < 0.000	SE 0.4258231 0.43578667 0.07643542 0.37731242 0.3774543 0.57640345 0.576667 0.5776667 0.57777 0.5777777777777777777777777777777777777	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight 59.3% 40.7%	N. Fixed, 95% Cl 2.89 [1, 25, 6, 65] 3.06 [1, 30, 7] 1.96 [1, 69, 2, 28] 2.33 [1, 11, 4, 87] 2.02 [1, 75, 2, 33] 0.0dds Ratio N. Fixed, 95% Cl 5.08 [1, 99, 12, 94] 6.55 [2, 12, 20, 27]	M. Fixed, 9 	5% Cl	1(
Cheng Xiao 2020 Liu Yongi 2002 Zhang L 2019 Total (95% CI) Heterogeneity: Chi ²¹ = 1 Test for overall effect. 2 Study or Subgroup Cheng Xiao 2020 Liu Yongyi 2002 Total (95% CI)	<u>logiOdds Ratio</u> 1.0602179 1.11841492 0.67243414 0.87243414 0.874457988 1.91, df = 3 (P = 0.5 Z = 9.66 (P < 0.000 <u>logiOdds Ratio</u>] 1.62491748 1.87946505	SE 0.4258231 0.43578667 0.07643542 0.37731242 0.3774543 0.57640345 0.57640345	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight 59.3% 40.7% 100.0%	N. Fixed, 95% Cl 2.89 (1.25, 6.65) 3.06 (1.30, 7.28) 1.96 (1.69, 2.28) 2.33 (1.11, 4.87) 2.02 [1.75, 2.33] 0.0dds Ratio N. Fixed, 95% Cl 5.08 (1.99, 1.294) 6.55 [2.12, 20.27] 5.63 [2.74, 11.57]	N. Fixed, 9	5% CI	10
Cheng Xiao 2020 Liu Yongy 2002 Zhang,L 2019 Zhang Yu 2016 Total (95% CI) Heterogeneity: Chi ² = 1 Test for overall effect. 2 Study or Subgroup Cheng Xiao 2020 Liu Yongyi 2002 Total (95% CI) Heterogeneity: Chi ² = 1 Test for serveral effect.	<u>logiOdds Ratio</u> 1.0602179 1.11841492 0.67243414 0.87243414 0.84457988 1.91, df = 3 (P = 0.5 Z = 9.66 (P < 0.000 <u>logiOdds Ratio</u> 1.62491748 1.87946505 0.12, df = 1 (P = 0.7 - 4.70.86 × 0.000	SE 0.42580231 0.43578667 0.07643542 0.37731242 59); ² = 0% 01) SE 0.47717543 0.57640345 73); ² = 0%	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight 59.3% 40.7% 100.0%	N. Fixed, <u>95% Cl</u> 2.89 (1.25, 6.65) 3.06 (1.30, 7.19) 1.96 (1.69, 2.28) 2.33 (1.11, 4.87) 2.02 (1.75, 2.33) 0.0dds Ratio M. Fixed, <u>95% Cl</u> 5.08 (1.99, 12.94) 6.65 (2.12, 20.27) 5.63 (2.74, 11.57)	M. Fixed, 9 .01 0.1 1 Favours [experimenta]] F1 Odde R N. Fixed, 1 0 0 0.01 1 0.1 1	5% CI	10
Cheng Xiao 2020 Lui Yongy 2002 Zhang, L019 Total (95% CI) Heterogeneik, Chi ^{ar} = 1 Test for overail effect. 2 Study or Subgroup Cheng Xiao 2020 Lui Yongy 2002 Total (95% CI) Heterogeneik, Chi ^{ar} = C	LogiOdds Ratio 1.0602179 1.1841492 0.67243414 0.84457988 1.91, df = 3 (P = 0.5 Z = 9.66 (P < 0.000	SE 0.4256231 0.42578667 0.07643542 0.37731242 (39); P = 0% 01) SE 0.47717543 0.57640345 73); P = 0% 001)	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight 59.3% 40.7% 100.0%	N. Fixed, 95% CI 2.89 (1.25, 6.65) 3.06 (1.30, 7.126) 1.96 (1.69, 2.28) 2.33 (1.11, 4.87) 2.02 (1.75, 2.33) 0.0dds Ratio M. Fixed, 95% CI 5.08 (1.99, 12.94) 6.55 (2.12, 20.27) 5.63 (2.74, 11.57)	N. Fixed, 9 	5% CI	10
Cheng Xiao 2020 Liu Yongyi 2002 Zhang,L. 2019 Zhang,Yu. 2016 Total (95% C) Heterogeneity, Chi ²¹ = 1 Test for overall effect. 2 Study of Stubaroup Cheng Xiao 2020 Total (95% C) Heterogeneity, Chi ²² = 1 Test for overall effect. 2	log() dd8 Ratio) 1.0602179 1.11841492 0.67243414 0.84457988 1.91, df = 3 (P = 0.6 Z = 9.66 (P < 0.000 log() dd8 Ratio) 1.62491748 1.87946505 0.12, df = 1 (P = 0. Z = 4.70 (P < 0.000) log() d = 1 (P = 0.)	SE 0.4259231 0.4257867 0.07643542 0.37731242 (39); P = 0% 01) SE 0.47717543 0.57640345 (30); I [#] = 0% (301)	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight 59.3% 40.7% 100.0%	M. Fixed. 95% C1 2.80 (1: 26, 6.65) 3.06 (1: 30, 7.19) 1.80 (1: 6.9, 2.28) 2.33 (1: 11, 4.82) 2.33 (1: 11, 4.82) 2.02 [1.75, 2.33] C0dds Ratio M. Fixed. 95% C1 5.08 [1: 99, 12.94] 6.55 [2: 12, 20.27] 5.63 [2.74, 11.57] Odds Ratio	M. Fixed. 9 .01 0.1	5% CI	10
Cheng Xiao 2020 Liu Yongy 2002 Zhang, L. 2019 Zhang Yu. 2016 Total (5%; C) Helerogeneh; C.hi" = 1 Test for overall effect. 2 Study or Subarcoup Cheng Xiao 2020 Liu Yongy 2002 Total (9%; C) Helerogeneh; C.hi" = (Test for overall effect. 2 Study or Subarcoup Cheng Xiao. 2020	LogiOdds Ratio 1.0602179 1.1821492 0.67243414 0.84457988 1.91, df = 3 (P = 0.5 2 = 9.66 (P < 0.000	SE 0.4258231 0.43578667 0.07643542 0.37731242 59); P = 0% 01) SE 0.47717543 0.57640345 0.373); P = 0% 001) SE 0.37731242	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight 100.0% Weight 31.8%	M. Fixed. <u>95%</u> CI 2.89 [1.25, 6.65] 3.06 [1.30, 7.19] 1.90 [1.80, 2.28] 2.33 [1.11, 48] 2.02 [1.75, 2.33] COdds Ratio <u>M. Fixed. <u>95%</u> CI 5.08 [1.99, 12.94] 5.65 [2.12, 20.27] 5.63 [2.74, 11.57] Odds Ratio <u>M. Fixed. <u>95%</u> CI <u>M. Fixed. <u>95%</u> CI</u></u></u></u></u></u></u></u></u></u></u>	N. Fixed, 9 .01 0.1 Favours (experimental) Fa Odds R. N. Fixed, 1 .01 0.1 Favours (experimental) Fa N. Fixed, 1 .01 0.1 Favours (experimental) Fa M. Fixed, 1 M. Fixed	5% CI	10
Cheng Xiao 2020 Lui Yongri 2002 Zhang Lu 2019 Total (95% C) Heterogeneity: Chi ^a = 1 Test for overail effect. 2 Study or Subaroup Cheng Xiao 2020 Lui Yongri 2002 Total (95% C) Heterogeneity: Chi ^a = 1 Test for overail effect. 2 Study or Subaroup Cheng Xiao 2020 Zhang L. 2019	LongCodds Ratio 1.0602179 1.1821492 0.67243414 0.84457988 1.91, df = 3 (P = 0.5 Z= 9.66 (P < 0.000	SE 0.4258231 0.43578667 0.07643542 0.37731242 59); P = 0% 01) SE 0.47717543 0.57640345 73); P = 0% 01) SE 0.38273929 0.26137887	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight 59.3% 40.7% 100.0% Weight 31.8% 68.2%	M. Fixed, <u>95%</u> C1 2.09 (1, 26, 6, 6) 3.06 (1, 30, 7, 19) 1.96 (1, 6), 2, 28) 2.03 (1, 11, 4, 87) 2.02 (1, 75, 2, 23) 2.02 (1, 75, 2, 23) 2.02 (1, 75, 2, 33) Codds Ratio M. Fixed, <u>95%</u> C1 3.28 (1, 49, 1, 55, 6, 24) Codds Ratio M. Fixed, <u>95%</u> C1 3.28 (1, 43, 3, 39)	N. Fixed, 9 .01 0.1 Favours (experimental) F Favours (experimental) F Favours (experimental) F Favours (experimental) F Odds R M. Fixed, 1 .01 0.1 1 .01 0.1 1 .04 0.8 R .04 0.8 R	5% CI 10 10 10 10 10 10 10 10 10 10	10
Cheng Xiao 2020 Liv YongY 2002 Zhang Li 2019 Zhang Yu 2016 Total (9%): CD Heterogeneity: Ch ² = 1 Total for verail effect 2 Study of Subgroup Cheng Xiao 2020 Total (9%): CD Heterogeneity: CD ² = (Total (9%): CD Heterogeneity: CD Cheng Xiao 2020 Zhang Li 2019 Total 2020	log() ddg Ratio) 1.0602173 1.11841492 0.67243414 0.84457988 1.91, df = 3 (P = 0.5 = 9.66 (P < 0.000) log() ddg Ratiol 1.62491748 1.8748674 0.864876 0.12, df = 1 (P = 0.2 Z = 4.70 (P < 0.000) log() ddg Ratiol 1.1872348 0.8683602	SE O4258231 0.43578667 0.07643542 0.37731242 0.37731242 0.9); P = 0% 01) SE 0.47717543 0.57640345 73); P = 0% 001) SE 0.38273929 0.26137887	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight 59.3% 40.7% 100.0% Weight 31.8% 68.2% 100.0%	M. Fixed, 95% C1 2.89(1.25, 66) 3.06(1:30, 7.19) 1.66(1:69, 2.28) 2.33(1.11, 4.87) 2.02(14.75, 2.33) 0.0dds Ratio M. Fixed, 95% C1 5.08(1.99, 1.294) 5.03(2.74, 11.57) 0.0dds Ratio M. Fixed, 95% C1 3.28(1.55, 6.94) 2.38(1.43, 3.98) 2.38(1.43, 3.98)	M. Fixed. 9	5% CI	10
Cheng Xiao 2020 Liu Yongi 2002 Zhang Lu 2019 Zhang Yu 2016 Total (95% CI) Heterogenehy: Ch ^m = 1 Total (95% CI) Heterogenehy: Ch ^m = 4 Total (95% CI) Heterogenehy: Ch ^m = 4 Test for overall effect 2 Zhang Lu 2019 Zhang Lu 2019 Total (95% CI)	$\label{eq:constraint} \begin{split} & \mbox{log}(2de Ratio) \\ & \mbox{log}(2de R$	SE 0.4258231 0.43578667 0.07643542 0.37731242 39); P = 0% 01) SE 0.47717543 0.57640345 0.38273929 0.26137887 49); P = 0%	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight 59.3% 40.7% 100.0% Weight 31.8% 68.2%	M. Theor, 95%, CT. 28(1): 26, 663, 28(1); 26, 663, 28(1); 26, 663, 28(2); 233(1); 11, 4.87) 2.33(1), 11, 4.87) 2.33(1), 11, 4.87) 2.02(1, 75, 2, 233) Codds Ratio M. Freed, 95%; CT. Odds Ratio M. Freed, 95%; CT. 2.32(1), 56, 38(1); 24, 41, 57) Codds Ratio M. Freed, 95%; CT. 2.32(1), 56, 38(1); 24, 38(1); 24, 38(1); 24, 38(1); 24, 38(1); 24, 40; 38(1); 24, 40; 38(1); 24, 40; 38(1); 24, 40; 38(1); 24, 41, 73, 40; 38(1); 24, 41, 74, 41; 41; 41; 41; 41; 41; 41; 41; 41; 41;	N. Fixed, 9 .01 0.1 1 Favours (experimental) F- .046 R .046 R .04	5% CI	1(
Cheng Xiao 2020 Liv Yongyi 2002 Zhang Lu 2019 Zhang Lu 2019 Total (95% CL) Heterogeneity. Chi ^{ae} 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2020 Cheng Xiao 2020 Cheng Xiao 2020 Study or Subgroup Cheng Xiao 2020 Cheng Xiao 2020 Stang L 2019 Total (95% CL) Heterogeneity. Chi ^{ae} 1 Test for overall effect 2 Test f	eq:control of the state of the stat	SE O4258231 0.43578667 0.04258231 0.07643542 0.07743542 03); IP = 0% 01) SE 0.47717543 0.57640345 73); IP = 0% 001) SE 0.38273929 0.26137887 49); IP = 0% 001)	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight 59.3% 40.7% 100.0% Weight 31.8% 68.2% 100.0%	M: Freed, 9%; CT 28(1):26, 663 28(1):26, 663 23(1):11, 11, 487 233(1):11, 487 202(1):75, 233 0, 11, 12, 487 202(1):75, 233 0, 11, 12, 12, 12, 12, 12, 12, 12, 12, 12	M. Fixed, 9 .01 0.1 Favours (experimental) F Favours (experimental) F Favours (experimental) F Codes R M. Fixed, 1 .01 0.1 1 Favours (experimental) F Favours (experimental) F	5% c1 10 wours [control] 10 10 10 10 10 10 10 10 10 10	10
Cheng Xiao 2020 Li Yongyi 2002 Zhang Lu 2019 Zhang Yu 2016 Total (95% C) Heltoroganetik Chi ^{ae} = 1 Test for overall effect 2 Study or Suboroup Cheng Xiao 2020 Total (95% C) Heltoroganetik Chi ^{ae} = 1 Est for overall effect 2 Study or Suboroup Cheng Xiao 2020 Zhang L 2019 Total (95% C) Heltorogenetik Chi ^{ae} = 1 Test for overall effect 2 Study or Suboroup	LonQidde Ratio 1.0002179 1.10844292 0.07243144 0.84457998 1.91_df = 3 P = 0.5 2.2 = 8.6 P < 0.000 LonQidde Ratio 1.87946505 0.12_df = 1 (P = 0. 2.4 - 70 (P < 0.000 LonQidde Ratio 0.8663602 0.47, df = 1 (P = 0. 2.4 - 49 (P < 0.000)	SE SE 0.4258231 0.4258231 0.4258231 0.377431242 0.37731242 0.37731242 39); P = 0% 01) SE 0.47717543 0.57640345 0.57640345 73); P = 0% 0.026137827 0.28273929 0.26137827 49); P = 0% 001)	Weight 2.9% 90.6% 3.7% 100.0% Weight 59.3% 40.7% 100.0% Weight 100.0%	M: Freed 95% cf 2891 (25, 663) 2891 (25, 663) 2891 (25, 663) 2891 (25, 663) 233 (114, 487) 233 (114, 487) 232 (117, 233) Codds Ratio M: Freed, 95% cf 5.08 (199, 1234) 5.05 (212, 2027) 5.05 (212	M. Fixed. 9 M. Fixed. 9 1.01 0.1 7 Favours [experimental] F4 0.01 0.1 1 Favours [experimental] F4 0.04 R N. Fixed. 9 0.01 0.1 1 Favours [experimental] F 0.04 R N. Fixed. 9 0.01 0.1 1 Favours [experimental] F 0.04 R	5% CI	10
Cheng Xiao 2020 Li Yongi 2002 Zhang Lu 2019 Zhang Yu 2016 Total (95% CI) Heterogeneity, Chi [®] = 1 Est for verail effect 2 Study or Subarcoup Cheng Xiao 2020 Lui Yongi 2002 Cheng Xiao 2020 Lui Yongi 2002 Cheng Xiao 2020 Zhang Cheng Xiao 2020 Zhang Lui Yongi 2002 Total (95% CI) Heterogeneity, Chi [®] = 1 Total (95% CI) Heterogeneity, Chi [®] = 1 Test for overail effect 2 Study or Subarcoup	Lon(Code Ratio) 1.0002179 1.1041402 0.07243144 0.07243144 0.0744517905 1.91, df = 2, df = 0, f = 0,	SE 0.4258231 0.4258231 0.43578667 0.03578667 0.037643542 0.037731242 0.37731242 39); P = 0% 01) SE 0.47717543 0.45784074 0.57640345 73); P = 0% 0.26137887 49); P = 0% 001) SE 0.40111	Weight 2.9% 90.6% 3.7% 100.0% Weight 100.0% Weight 31.8% 68.2% 100.0%	M: Fixed, 95%, CT 2891, 125, 665 2891, 125, 665 2301, 130, 613 2331, 131, 487 2331, 134, 487 2321, 134, 487 2321, 134, 487 2321, 134, 487 2321, 134, 487 2321, 134, 134 0455, 121, 2027 5431, 224, 134, 1357 0455, 214, 2027 5431, 224, 134, 388 2441, 137, 3403 0465, Ratio M: Fixed, 95%, CT	N. Fixed, 9 .01 - Favours (experimental) F Odds R 0.01 1 Favours (experimental) F Odds R N. Fixed, 1 Favours (experimental) F Odds R N. Fixed, 1 Favours (experimental) F Odds R 0.01 0.1 Favours (experimental) F Odds R 0.01 0.1 Favours (experimental) F Odds R M. Kreed, 9	Six CI Six C	10
Cheng Xiao 2020 Liv Yongi 2002 Zhang Lu 2019 Zhang Yu 2016 Total (95% CD) Heterogeneity: Chi ^m = 1 Test for overail effect 2 Study or Subarroum Cheng Xiao 2020 Liu Yongi 2002 Total (95% CD) Heterogeneity: Chi ^m = (Total (95% CD) Total 95% CD) Total 95% CD Total 95	$\label{eq:constraints} \begin{split} & log(2) def Ratio [& l$	SE 0.4258231 0.4258231 0.43572667 0.07643542 0.37731242 i39); P = 0% 01) SE 0.47717543 0.57640345 73); P = 0% 01) SE 0.38273929 0.26137887 49); P = 0% 001) SE 0.2208106 0.2208106	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight 40.7% 100.0% 86.2% 100.0% 99.2%	M: Freed, 95%, CT 288 (1, 26, 66) 289 (1, 26, 66) 233 (1, 10, 7, 19) 306 (1, 30, 7, 19) 233 (1, 11, 4, 87) 202 (1, 75, 233) 0455 Ratio M: Freed, 95%, CT 328 (1, 43, 7, 18) 0465 Ratio M: Freed, 95%, CT 328 (1, 43, 38) 2, 64 (1, 73, 4, 03) 2, 64 (1, 73, 4, 03) 2, 64 (1, 73, 4, 03) 0465 Ratio M: Freed, 95%, CT 197 (16), 2, 14) 2, 271 (16, 3 ex)	N. Fixed. 9 .01 0.1	5% CI	10
Cheng Xiao 2020 Liv YongY 2002 Zhang Lu 2019 Zhang Yu 2016 Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study of Suboroup Cheng Xiao 2020 Liv YongY 2002 Total (95% C) Heltorogenety: Chi# = 1 Est for overall effect 2 Study of Suboroup Cheng Xiao 2020 Zhang L 2019 Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study of Suboroup Study 2021	LonQidde Ratin L 1.0002179 1.10844792 0.07724144 0.84457998 1.91 dt 3 QP = 0.8 2 = 8.6 GP < 0.000 LonQidde Ratin L 1.87946505 0.12, df = 1 QP = 0. 2 = 4.70 QP < 0.000 LonQidde Ratin L 1.18723348 0.47, df = 1 (P = 0. 2 = 4.49 QP < 0.000 LonQidde Ratin L 0.67560954 0.85499744	SE SE 0.4258231 0.435728667 0.035728667 0.007643542 0.03731242 0.37731242 i3); P = 0% 01) SE 0.47717543 0.57740347 0.57640345 0.0.57640345 0.26137887 49); P = 0% 001) SE 0.043765 0.24284765 0.22081069	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight 100.0% Weight 100.0% Weight 96.2% 3.8%	M: Freed 95% cf 2891 (25, 663) 2891 (25, 663) 2891 (25, 663) 2891 (25, 663) 233 (111, 487) 233 (111, 487) 232 (117, 233) Codds Ratio M: Faced, 95% cf 328 (143, 368) 238 (143, 368) Codds Ratio M: Freed, 95% cf 1, 37, 187, 143, 143) Codds Ratio M: Freed, 95% cf 1, 37, 187, 143, 143, 368) Codds Ratio M: Faced, 95% cf 1, 37, 187, 143, 143, 368) Codds Ratio M: Faced, 95% cf 1, 37, 187, 143, 143, 368) Codds Ratio M: Faced, 95% cf 1, 37, 187, 143, 143, 368) Codds Ratio	M. Fixed, 9 .01 0.1	SS CI	10
Cheng Xiao 2020 Liv Yongh 2002 Zhang JL 2019 Zhang YL 2019 Cheng Xiao 2016 Total (95% CI) Heterogeneity: Ch [#] = 1 Cheng Xiao 2020 Liu Yongh 2002 Cheng Xiao 2020 Liu Yongh 2002 Total (95% CI) Heterogeneity: Ch [#] = 1 Total (95% CI) Heterogeneity: Ch [#] = 1 Total Yosh CI) Heterogeneity: Ch [#] = 1 Heterogeneity: Ch [#] = 1 Heterogene	Lon(Code Ratio) 1.0002179 1.1041402 0.07243144 0.07243144 0.07243144 0.0744517905 1.91 df 2 df 0	SE SE 0.4258231 0.43572867 0.04578067 0.07643542 0.07643542 0.07643542 0.07643542 0.07643542 0.1) SE 0.457731242 0.37731242 0.057640345 0.57640345 773); I* = 0% 0.011 SE 0.38273929 0.26137887 0.20137887 40); I* = 0% 0.043765 0.202081009 4072081009	Weight 2.9% 2.8% 90.6% 3.7% 100.0% Weight 100.0% Weight 100.0% Weight 100.0%	N: Fixed, 95%, CT 2891, 125, 665 2891, 125, 665 2301, 130, 613 2331, 131, 487 2331, 134, 487 2331, 134, 487 2321, 134, 487 2321, 134, 487 2321, 134, 487 2321, 134, 487 2321, 134, 134 0455 Ratio N: Fixed, 95%, CT 2321, 134, 348 2381, 134, 348 2384, 1343, 1348, 1343, 1348 2384, 1343, 1348, 134	N, Fixed, 9 .01 0,1 1 Favours (experimental) F avours (experimental) F Avours (experimental) F Avours (experimental) F Favours (experimental) F Favours (experimental) F Odds R N, Fixed, 1 	5% CI 10 vours (control) atio 55% CI 10 avours (control) atio 55% CI 10 avours (control) atio 55% CI 10 10 10 10 10 10 10 10 10 10	10
Cheng Xiao 2020 Liv YongY 2002 Zhang L. 2019 Zhang Yu. 2019 Total (95% C) Heterogenetic, Chi [#] = 1 Test for overall effect 2 Study or Suboroup Cheng Xiao 2020 Liv YongY 2002 Total (95% C) Heterogenetic, Chi [#] = (Cheng Xiao 2020 Cheng Xiao 2020 Total (95% C) Total (95% C) Heterogenetic, Chi [#] = 1 Craing Xiao 2022 Lin Shuang 2021 Total (95% C) Heterogenetic, Chi [#] = 1 Total (95% C) Heterogenetic, Chi [#] = 1 Test for overall effect 2 Total (95% C)	Lon(Codes Ratio) 1.0002179 1.1044492 0.07243144 0.94457988 1.91, df = Qf = 0.0 2.5 9.66 (° 0.000 Lon(Codes Ratio) 1.62461748 1.8794505 0.12, df = 1 (° = 0. 2.5 4, 37 (° = 0.001 1.6272348 0.8754054 0.875405	SE SE 0.4258231 0.4258231 0.03572667 0.07643542 0.07643542 0.37731242 30); P = 0% 01) SE 0.457717543 0.457640345 73); P = 0% 0.11) SE 0.38273929 0.26137887 40); P = 0% 0.043765 0.20437669 0.20437669	Weight 2.9% 90.6% 3.7% 100.0% Weight 59.3% 40.7% 100.0% Weight 100.0% 100.0%	M: Freed, 95%, CT 288 (1, 26, 66) 289 (1, 26, 66) 233 (1, 11, 487) 233 (1, 11, 487) 233 (1, 11, 487) 202 (1, 75, 233) 0455 Ratio M: Freed, 95%, CT 205 (1, 19, 124) 0455 Ratio M: Freed, 95%, CT 238 (1, 43, 386) 2, 64 (1, 73, 4, 03) 2, 64 (1, 74, 4, 10) 2, 74 (1, 14, 14) 2, 75 (1, 14	M. Fixed, 9	5% CI	10
Cheng Xiao 2020 Liv YongY 2002 Zhang Xi 2019 Zhang Yu 2016 Total (95% C) Heterogenety: Chi# = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2020 Liv YongY 2002 Total (95% C) Heterogenety: Chi# = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2020 Zhang J. 2019 Total (95% C) Heterogenety: Chi# = 1 Test for overall effect 2 Study or Subgroup Study or Subgroup Study or Subgroup 2014 (95% C) Heterogenety: Chi# = 1 Test for overall effect 2 Study or Subgroup 2014 (95% C) Heterogenety: Chi# = 1 Test for overall effect 2 Total (95% C) Heterogenety: Chi# = 1 Total (95% C) Heterogenety: Chi# = 1 Test for overall effect 2 Total (95% C) Heterogenety: Chi# = 1 Test for overall effect 2 Test for	$\label{eq:constraints} \begin{split} & log(2) def Ratio L \\ & 1 0002179 \\ & 1 10041492 \\ & 0.07244141 \\ & 0.074457998 \\ & 0.07244141 \\ & 0.074457998 \\ & 0.07244141 \\ & 0.074457998 \\ & 0.000 \\ & 0.07445799 \\ & 0.000 \\ & 0.07445799 \\ & 0.000 \\ & 0.0744579 \\ & 0.000 \\ & 0.074579 \\ & 0.000$	SE SE 0.4256231 0.4256231 0.035728667 0.07643542 0.07643542 0.37731242 ia); P = 0% 011 SE 0.477175543 0.47717543 0.57640345 73); P = 0% 0.26137887 49); P = 0% 0011 SE 0.0437656 0.22081069 40); P = 0% 40); P = 0% 0001)	Weinht 2.9% 2.8% 90.6% 3.7% 100.0% Weinht 100.0% Weinht 100.0% 100.0%	M: Freed 95% CT 2891 (25, 663) 2891 (25, 663) 2891 (25, 663) 2891 (25, 663) 233 (114, 487) 233 (114, 487) 232 (147, 233) Codds Ratio M: Freed, 95% CT 533 [274, 1157] 543 [274, 1157] 544 [274	M. Fixed, 9	S% CI	10
Cheng Xiao 2020 Liv Yongh 2002 Zhang JL 2019 Zhang YL 2019 Zhang YL 2019 Total (95% CI) Heterogenehy: Ch ²¹ = 1 Test for overall effect 2 Study or Subarcoup Cheng Xiao 2020 Liu Yongh 2002 Total (95% CI) Heterogenehy: Ch ²¹ = 1 Test for overall effect 2 Study or Subarcoup Total (95% CI) Heterogenehy: Ch ²¹ = 1 Test for overall effect 2 Study Cheng Xiao 2020 Zhang L 2019 Total (95% CI) Heterogenehy: Ch ²¹ = 1 Test for overall effect 2 Study or Subarcoup Test Stor overall effect 2 Study cor Subarcoup Test Stor overall effect 2 Study or Subarcoup	Lon(Code Ratio) 1.0002179 1.1041402 0.072431414 0.072431414 0.072431414 0.072431414 0.072431414 0.072431414 0.072431414 0.074451998 1.972454 1.972454 1.972454 0.07245141 1.9723454 0.08645902 0.047, df=1 (P=0. 0.87650954 0.086459744 0.08645974 0.087650954 0.097650954 0.09765054 0.09765054 0.09765054 0.09765054 0.09765054 0.09765054 0.09765054 0.09765054 0.097650	SE SE 0.4258231 0.4258231 0.37731242 0.37731242 037731242 0.37731242 030 SE 0.4258231 0.57640345 73); I*= 0% 0.3273929 0.32737324 0.57640345 0.3273929 0.26137887 49); I*= 0% 001) SE 0.22081069 40); I*= 0% 0001)	Weidht 2.9% 2.8% 90.6% 3.7% 100.0% Weidht 100.0% Weidht 96.2% 3.8% 100.0%	N: Fixed, 95%, CT 2691, 125, 665 2691, 125, 665 2301, 130, 719 3231, 111, 487 2231, 114, 487 2231, 114, 487 2231, 114, 487 2231, 114, 487 2231, 114, 487 2045 Ratio N: Fixed, 95%, CT 04ds Ratio N: Fixed, 95%, CT 1371 (161, 214) 2381 (143, 248) 244 (14, 73, 4.03) 04ds Ratio N: Fixed, 95%, CT 1371 (161, 214) 2381 (143, 248) 1.98 (142, 245) 1.98 (142, 245)	.01 0.1 1 Favours (experimental) Favours (experimental) Favours (experimental) 0.01 0.1 1 Favours (experimental) Favours (experimental) Favours (experimental) 0.01 0.1 1 Favours (experimental) Favours (experimental) Favours (experimental) 0.01 0.1 1 Favours (experimental) Favours (experimental) Favours (experimental) Favours (experimental) Favours (experimental) Favours (experimental) 0.01 0.1 1 1 Favours (experimental) Favours (experimental) Favours (experimental) 0.01 0.1 1 1 Favours (experimental) Favours (experimental) Favours (experimental)	Six CI	10
Cheng Xiao 2020 Liv Yongi 2002 Zhang Lu 2019 Zhang Yu 2016 Total (95% C) Heterogenetic Chi [#] = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2020 Liv Yongi 2002 Total (95% C) Heterogenetic Chi [#] = (Study or Subgroup Cheng Xiao 2020 Total (95% C) Heterogenetic Chi [#] = (Study or Subgroup Total (95% C) Heterogenetic Chi [#] = 1 Study or Subgroup Total (95% C) Heterogenetic Chi [#] = 1 Test for overall effect 2 Study or Subgroup Heterogenetic Chi [#] = 1 Test for overall effect 2 Study or Subgroup Heterogenetic Chi [#] = 1 Test for overall effect 2 Study or Subgroup Heterogenetic Chi [#] = 1 Test for overall effect 2 Study or Subgroup Chen Yang 2014	$\label{eq:constraints} \begin{split} & \mbox{log}(constraints, exactly a state of the state o$	SE SE 0.4258231 0.4258231 0.4258231 0.37731242 0.37731242 0.37731242 (3)731242 0.37731242 (3)731242 0.37731242 (3)731242 0.37731242 (3)731242 0.37731242 (3)731242 0.37640345 (3)7640345 0.3273929 (3)26137927 0.26137887 (40); I* = 0% 0.043765 (0).2081069 40); I* = 0% (40); I* = 0% 0001)	Weinht 2.9% 2.8% 90.6% 9	W. Fixed, 99%, C1 289%, C1 268%, C2 268%, C2 <td>M. Fixed, 9 .01 0.1</td> <td>Six cl To To</td> <td>10</td>	M. Fixed, 9 .01 0.1	Six cl To	10
Cheng Xiao 2020 Liv Yong/ 2002 Zhang Lu 2019 Zhang Yu 2016 Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Cheng Xiao 2020 Liv Yong/ 2002 Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Cheng Xiao 2020 Zhang L 2019 Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Study or Suboroup Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Study or Suboroup Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Total (95% C) Heltorogenety: Chi# = 1 Test for overall effect 2 Study or Suboroup Test for overall effect 2 Study or Sub	$\label{eq:constraints} \begin{split} & log(2) def Ratio L \\ & 10002179 \\ & 11041442 \\ & 0.057424144 \\ & 0.057424144 \\ & 0.057424144 \\ & 0.057424144 \\ & 0.057424144 \\ & 0.057424144 \\ & 0.057424144 \\ & 0.057424144 \\ & 1.07244505 \\ & 0.12 (d-1) (P=0, 12) \\ & 0.06750054 \\ & 0.06750054 \\ & 0.06750054 \\ & 0.06750054 \\ & 0.0755122 \\ & 0.775512 \\ & 0.775512 \\ $	SE SE 0.4256231 0.4256231 0.03572667 0.07643542 0.07643542 0.37731242 59); P = 0% 01) SE 0.47717543 0.47717547 0.36273929 0.26137887 49); P = 0% 001) SE 0.043765 0.22081069 40); P = 0% 0001) SE 0.34827027 0.34827027 0.346370477 0.346370477 0.1909770-	Weinht 2.9% 2.8% 90.6% 90.6% 90.6% 90.6% 90.6% 90.6% 90.6% 90.6% 90.6% 90.6% 90.6% 90.6% 90.0% 9	N. Tixed, 95%, CT 2891, 125, 665 2891, 125, 665 2891, 125, 665 2301, 130, 141, 487 2331, 114, 487 232, 114, 487 232, 114, 487 232, 114, 487 232, 114, 487 232, 114, 487 232, 114, 487 233, 114, 487 233, 114, 487 233, 114, 487 233, 114, 487 233, 114, 487 233, 114, 487 234, 114, 114, 114, 114, 114, 114, 114, 1	M. Fixed, 9	S% CI	10
Cheng Xiao 2020 Liv Yongh 2002 Zhang JL 2019 Zhang JL 2019 Zhang YL 2019 Total (95% CI) Heterogeneity: Chi [#] = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2020 Liu Yongh 2002 Total (95% CI) Heterogeneity: Chi [#] = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2020 Zhang L 2019 Total (95% CI) Heterogeneity: Chi [#] = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2021 Total (95% CI) Heterogeneity: Chi [#] = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2021 Total (95% CI) Heterogeneity: Chi [#] = 1 Test for overall effect 2 Study or Subgroup Chen Xiao 2021 Total (95% CI) Heterogeneity: Chi [#] = 1 Test for overall effect 2 Study or Subgroup Chen Xiao 2021 Total (95% CI) Heterogeneity: Chi [#] = 1 Test for overall effect 2 Study or Subgroup Chen Xiao 2021 Total (95% CI) Heterogeneity: Chi [#] = 1 Test for overall effect 2 Study or Subgroup Chen Xiao 2021 Total (95% CI) Heterogeneity: Chi [#] = 1 Test for overall effect 2 Study or Subgroup Chen Xiao 2021 Theng Xiao 2021 Total (95% CI) Heterogeneity: Chi [#] = 1 Test for overall effect 2 Study or Subgroup Chen Xiao 2021 Total (95% CI) Heterogeneity: Chi [#] = 1 Test for overall effect 2 Study or Subgroup Chen Xiao 2014 Chen Xiao 2015 Chen Xiao	log(2def Ratio) 1.0002179 1.1041492 0.07243144 0.97443144 0.974457996 1.91, df = 0, f = 0, f = 0, f = 0, f = 0, f = 0, f = 0, f = 0, f = 0, f = 0, f = 0, f = 0, f	SE SE 0.4258231 0.4258231 0.37731242 0.37731242 037731242 0.37731242 0301 SE 0.4258231 0.57640345 73); I*= 0% 0.11 0.3273920 0.26137887 49); I*= 0% 0.01 SE 0.22081069 400; I*= 0% 0.043765 0.3870537027 0.38706377027 0.3487037272 0.34870327202	Weinht 2 9% 2 2% 90.6% 90.6% 90.6% 90.6% 90.6% 90.6% 40.7% 100.0% 96.2% 96.2% 96.2% 96.2%	N: Fixed, 95%, CT 2691, 125, 665 2691, 125, 665 2301, 130, 719 3231, 111, 487 2331, 114, 487 2331, 114, 487 2321, 125, 428 0458 Ratio N: Fixed, 95%, CT 2431, 125, 2331 2445 Ratio N: Fixed, 95%, CT 2331, 143, 389 2441, 145, 71 2331, 143, 248 2331, 143, 398 2441, 145, 71 1497, 148, 241 3631, 149, 718 3631, 149, 718 3631, 149, 718 3631, 149, 718 3631, 144, 145, 145, 145, 145, 145, 145, 14	M. Fixed, 9 0.01 0.1 1 Favours (experimental) F Favours (experimental) F Favours (experimental) F Favours (experimental) F Favours (experimental) F Favours (experimental) F Codds R M. Fixed, 1 Favours (experimental) F Favours (experimental) F Codds R M. Fixed, 1 Codd R M. Fixed, 1 Codd R M. Fixed, 1 Codd R Codd R	Six CI	10
Cheng Xiao 2020 Liv Yong Xiao 2020 Zhang Xi 2010 Zhang Xi 2010 Total (95% C) Heterogenetic Chi ^m = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2020 Liv Yong Yiao Total (95% C) Heterogenetic Chi ^m = (Total (95% C) Heterogenetic Chi ^m = 1 Total (95% C) Heterogenetic Chi ^m = 1 Study or Subgroup Feng Wenting 2022 Lin Shuang 2021 Total (95% C) Heterogenetic Chi ^m = 1 Test for overall effect 2 Study or Subgroup Test Store and 1 Heterogenetic Chi ^m = 1 Test for overall effect 2 Study or Subgroup Test Store and 1 Heterogenetic Chi ^m = 1 Test for overall effect 2 Study or Subgroup Test Store and 1 Heterogenetic Chi ^m = 1 Test for overall effect 2 Study or Subgroup Test Store and 1 Feng Wenting 2022 Tang L 2019 Total (95% C) Heterogenetic Chi ^m = 1 Test for overall effect 2 Study or Subgroup Test Store and 1 Feng Wenting 2022 Zhang L 2019	Lon(Code Ratio) 1.0002179 1.1041492 0.07243144 0.97443144 0.974457988 1.91, df 2, df = 0, 0 2 = 9, 66 (\$ 0, 000) 2 = 9, 66 (\$ 0, 000) Lon(Code Ratio) 1.62491748 1.8794505 0.12, df = 1 (\$ 0 = 0, 1 1.62491748 1.8794505 0.12, df = 1 (\$ 0 = 0, 1 1.62743748 1.8794505 0.12, df = 1 (\$ 0 = 0, 0 0.868409744 0.70, df = 1 (\$ 0 = 0, 0 0.868409744 0.70, df = 1 (\$ 0 = 0, 0 1.28864153 1.02754925 1.28864153 1.02754522 0.77574921 1.28864153 1.02754522 0.77574921 1.28864154 1.28	SE SE 0.4258231 0.4258231 0.4258231 0.37731242 0.37731242 0.37731242 037731242 0.37731242 03731242 0.37731242 0.310 SE 0.47717543 0.57640345 73); * = 0% 0.010 SE 0.038273929 0.26137887 0.021637887 0.0101) SE 0.02081069 40); * = 0% 0001) SE 0.34637027 0.34637027 0.34637027 0.34637027 0.3937020477 0.31937202 0.19397202 0.319376477 0.19397202 0.319376477	Weinht 2.8% 90.5% 3.7% 100.0% Weinht 59.3% 40.7% 40.7% 100.0% Weinht 100.0% Weinht 100.0% Weinht 100.0%	W. Fixed, 99%, C1 289%, C1 268%, C2 278%, C2 278%, C2 278%, C2 278%, C2 278%, C2 <td>M. Fixed, 9</td> <td>Six cl To To To To To To To To To T</td> <td>10</td>	M. Fixed, 9	Six cl To To To To To To To To To T	10
Cheng Xiao 2020 Liv Yong/ 2002 Zhang Lu 2019 Zhang Yu 2016 Total (95% C) Heterogeneity: Chi ^a = 1 Test for overall effect 2 Study or Suboroup Cheng Xiao 2020 Total (95% C) Heterogeneity: Chi ^a = 1 Test for overall effect 2 Study or Suboroup Cheng Xiao 2020 Zhang L 2019 Total (95% C) Heterogeneity: Chi ^a = 1 Test for overall effect 2 Study or Suboroup Cheng 2020 Zhang 2021 Total (95% C) Heterogeneity: Chi ^a = 1 Test for overall effect 2 Study or Suboroup Chen Yang 2014 Total (95% C) Heterogeneity: Chi ^a = 1 Test for overall effect 2 Study or Suboroup Chen Yang 2014 Total (95% C) Heterogeneity: Chi ^a = 1 Test for overall effect 2 Study or Suboroup Chen Yang 2014 Total (95% C) Heterogeneity: Chi ^a = 1 Test for overall effect 2 Study or Suboroup Chen Yang 2014 Total (95% C) Heterogeneity: Chi ^a = 1 Test for overall effect 2 Study or Suboroup Chen Yang 2014 Total (95% C) Heterogeneity: Chi ^a = 1 Test for overall effect 2 Study or Suboroup Chen Yang 2014 Total (95% C) Heterogeneity: Chi ^a = 1 Test for overall effect 2 Study or Suboroup Chen Yang 2014 Total (95% C) Heterogeneity: Chi ^a = 1 Test for overall effect 2 Study or Suboroup	$\label{eq:constraints} \begin{array}{c} \text{log(Cotds Ratio)} \\ 1.0002179 \\ 1.10841492 \\ 0.007243144 \\ 0.04457998 \\ 1.91, df = 3 (P = 0.5 \\ 2.9 86 (P < 0.000 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481748 \\ 1.62481744 \\ 1.62481744 \\ 1.62481744 \\ 1.62481744 \\ 1.62481744 \\ 1.624817$	SE 0.4258231 0.4258231 0.435728667 0.03578667 0.07643542 0.37731242 0.37731242 93); P = 0% 01) SE 0.47717543 0.57640345 73); P = 0% 001) SE 0.382739292 0.26137887 40); P = 0% 001) SE 0.34637027 0.34637027 0.34637027 0.34637027 0.34637027 0.340397202 40); P = 0% 001) SE	Weinht 2 9% 2 9% 90 6% 3,7% 100.0% Weinht 100.0% Weinht 100.0% Weinht 96 2% 3.8% 100.0%	N. Theod. 95%. CT 2891.126, 663 2891.126, 663 2891.126, 663 2891.126, 663 2891.126, 663 2331.111, 4877 2002 (1.75, 2.33) Codds Ratio IN: Faced, 95%. CT 5.03 [199, 1, 234] 5.03 [199, 1, 234] 5.04 [199, 1,	M. Fixed, 9	5% CI	10
Cheng Xiao 2020 Liv Yongh 2002 Zhang,L. 2019 Zhang Yu 2016 Total (95% C) Heterogeneity, Chi ^a = 1 Total (95% C) Liu Yongh 2002 Total (95% C) Heterogeneity, Chi ^a = 1 Test for overall effect 2 Study or Subgroup Zhang,L. 2019 Total (95% C) Heterogeneity, Chi ^a = 1 Test for overall effect 2 Study or Subgroup Total (95% C) Heterogeneity, Chi ^a = 1 Test for overall effect 2 Study or Subgroup Total (95% C) Heterogeneity, Chi ^a = 1 Test for overall effect 2 Study or Subgroup Total (95% C) Heterogeneity, Chi ^a = 1 Test for overall effect 2 Study or Subgroup Chen Yang 2014 Test for overall effect 2 Study or Subgroup Chen Yang 2014 Test for overall effect 2 Study or Subgroup Chen Yang 2014 Test for overall effect 2 Study or Subgroup Chen Yang 2014 Feng Wenting 2022 Zhang,L 2019 Total (95% C) Heterogeneity, Chi ^a = 1 Test for overall effect 2 Study or Subgroup Chen Yang 2014 Total (95% C) Heterogeneity, Chi ^a = 1 Test for overall effect 2 Study or Subgroup Chen Yang 2014 Study or Subgroup Chen Yang 2014 Total (95% C) Heterogeneity, Chi ^a = 1 Test for overall effect 2 Study or Subgroup Chen Yang 2014 Study or Subgroup Study or Subgroup	log()dds Ratiol 1.0002179 1.1041492 0.07243144 0.07243144 0.07243144 0.07243144 0.07243144 0.07243144 0.07243144 0.07243144 1.072457905 0.12, df=1 (P = 0. 1.07245722 0.07650954 0.08643902 0.047, df=1 (P = 0. 0.085459744 0.08645924 0.08645924 0.075550954 1.00755792 0.75769815 1.84, df=2 (P = 0.001 1.8724345 0.075599815 1.84, df=2 (P = 0.001 1.8724345 0.075599815 1.84, df=2 (P = 0.001 1.87545985 1.84, df=2 (P = 0.001 1.87555985 1.84, df=2 (P = 0.001 1.875559855 1.84, df=2 (P = 0.001 1.8755598555 1.84, df=2 (P = 0.001 1.875559855555555555555555555555555555555	SE SE 0.4258231 0.4258231 0.37731242 0.37731242 037731242 0.37731242 0310 SE 0.4258231 0.57640345 73); I*= 0% 0.11 0.3273929 0.26137887 49); I*= 0% 0.01 SE 0.02081069 40); I*= 0% 0.01 SE 0.38279372 0.387043770 0.3987043770 0.387032770 0.387032772 0.3870327202 40); I*= 0% 001) SE	Weinht 2.9% 2.8% 90.6% 90.6% 3.7% 100.0% 59.3% 40.7% 100.0% Weinht 59.3% 100.0% 31.8% 66.2% 100.0% 96.2%,3.8% 100.0% Weinht 18.6% 100.0% 100.0% Weinht 18.6% 62.2% 100.0%	N: Fixed :9%: C1 2691: 25, 650 2691: 25, 650 2301: 130, 672 2331: 111, 487 2331: 114, 487 2321: 114, 475 2321: 1145 2321: 1145 2321: 1145 232	.01 0.1 1 Favours (experimental) Favours (experimental) Favours (experimental) 0.01 0.1 1 Favours (experimental) Favours (experimental) Favours (experimental) 0.01 0.1 1 Favours (experimental) Favours (experimental) Favours (experimental) 0.01 0.1 1 Favours (experimental) Favours (experimental) Favours (experimental) 0.01 0.1 1 Favours (experimental) 0.01 0.1 1 Favours (experimental) 0.01 0.1 1 Favours (experimental)	Six cl	10
Cheng Xiao 2020 Liv Yong Xiao 2020 Zhang Xiao 2020 Zhang Xiao 2020 Zhang Yia 2016 Total (95% C) Heterogeneity: Chill [®] = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2020 Liv Yong Yiao 2020 Total (95% C) Heterogeneity: Chil [®] = 1 Total (95% C) Heterogeneity: Chil [®] = 1 Test for overall effect 2 Study or Subgroup Test for overall effect 2 Study or Subgroup Heterogeneity: Chil [®] = 1 Test for overall effect 2 Study or Subgroup Heterogeneity: Chil [®] = 1 Test for overall effect 2 Study or Subgroup Test for overall effect 2 Total (95% C) Heterogeneity: Chil [®] = 1 Test for overall effect 2 Study of Subgroup Test for overall effect 2 Study of Subgroup	Lon(Code Ratio) 1.0002179 1.1041492 0.07243144 0.97443144 0.974457988 1.91, df 2, df = 0, 0 2 = 9, 66 (\$ 0, 000) Lon(Code Ratio) 1.82491748 1.8794505 0.12, df = 1 (\$ P = 0, 2 2 = 4, 70 (\$ P = 0, 000) Lon(Code Ratio) 0.87650954 0.87650954 0.87650954 0.87650954 0.87650954 0.87650954 0.7579981 1.28868153 1.02757920 1.28868153 1.02757920 1.28868153 1.02757920 1.28868153 1.28	SE SE 0.4258231 0.4258231 0.4258231 0.37731242 0.37731242 0.37731242 (3) (3) (3) (3) (4) (3) (3) (3) (4) (1) (5) (1) (6) (1) (6) (1) (6) (1)	Weinht 2.9% 2.9% 2.9% 2.9% 2.9% 2.9% 2.9% 2.9%	M: Freed, 95%, CT 2891, 126, 663 2891, 126, 663 2891, 126, 663 2891, 126, 663 2891, 126, 663 2331, 114, 487 2021, 1275, 2331 2021, 1275, 2331 2021, 1275, 2331 2021, 1275, 2331 2021, 1275, 2331 2021, 1275,	M. Fixed, 9	Six cl To To To To To To To To To T	10
Cheng Xiao 2020 Liv YongY 2002 Zhang Xi 2019 Zhang Xi 2019 Zhang Yu 2016 Total (9% C) Heterogeneity: Chi [#] = 1 Total Yong Xiao 2020 Cheng Xiao 2020 Total (9% C) Heterogeneity: Chi [#] = 1 Total Yong Xiao 2020 Zhang	$\label{eq:constraints} \begin{split} & \log(2) def Ratio [] & 10002179 \\ & 10002179 \\ & 10002179 \\ & 11044492 \\ & 0.072434144 \\ & 0.072434144 \\ & 0.072434144 \\ & 0.072434144 \\ & 0.07243414 \\ & 0.07243414 \\ & 0.0724414 \\ & 0.070448 \\ & 1.0794605 \\ & 0.12, df = 1, Qf = 0.0 \\ & 1.0724474 \\ & 1.0794605 \\ & 0.12, df = 1, Qf = 0.0 \\ & 0.12, df = 1, Qf = 0.0 \\ & 0.12, df = 1, Qf = 0.0 \\ & 0.000468 \\ & 0.00048 \\ & 0.00$	SE SE 0.4258231 0.4258231 0.37731242 0.37731242 0.37731242 0.37731242 93; P = 0% 01) SE 0.47717543 0.457640345 0.57640345 73; P = 0% 001) SE 0.43773787 40); P = 0% 001) SE 0.43703477 0.34637027 0.347637027 0.34637027 0.34637027 0.319937202 40); P = 0% 001) SE 0.0459362 0.340537027 0.340537027 0.340537027 0.919 F = 0% 0001)	Weinht 2.9% 2.8% 2.8% 2.8% 2.8% 90.5% 3.7% 100.0% Weight 98.2% 31.8% 98.2% 31.8% 98.2% 30.0% Weight 100.0% Weight 100.0% Weight 100.0% 7.1%	N. Tixed, 95%, CT 2891, 125, 663 2891, 125, 663 2301, 130, 719 1891, 1891, 1892, 189 2, 331, 114, 487 202 (1,75, 2,33) 1, 114, 487 202 (1,75, 2,33) 1, 114, 487 202 (1,75, 2,33) 1, 114, 487 202 (1,75, 2,33) 1, 114, 487 203 (1,75, 2,33) 2, 114, 1991, 1234 5, 114, 114, 1157 2, 1157 2, 1157, 114, 114 2, 137 (1, 134, 134) 2, 1497 (1,	M. Fixed, 9		10
Cheng Xiao 2020 Liv Yongh 2002 Zhang,L 2019 Zhang Xi 2016 Total (95% C) Heterogenehy, Chi ^{ar} = 1 Total (95% C) Liu Yongh 2002 Total (95% C) Heterogenehy, Chi ^{ar} = 1 Test for overall effect 2 Study or Subgroup Zhang L 2019 Total (95% C) Heterogenehy, Chi ^{ar} = 1 Test for overall effect 2 Study or Subgroup Zhang L 2019 Total (95% C) Heterogenehy, Chi ^{ar} = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2020 Cheng Xiao 2020 Zhang L 2019 Total (95% C) Heterogenehy, Chi ^{ar} = 1 Test for overall effect 2 Study or Subgroup Chen Yang 2014 Total (95% C) Heterogenehy, Chi ^{ar} = 1 Test for overall effect 2 Study or Subgroup Chen Yang 2014 Total (95% C) Heterogenehy, Chi ^{ar} = 1 Test for overall effect 2 Study or Subgroup Chen Yang 2014 Total (95% C) Heterogenehy, Chi ^a = 1 Test for overall effect 2 Study or Subgroup Chen Yang 2014 Total (95% C) Heterogenehy, Chi ^a = 1 Test for overall effect 2 Study or Subgroup Total (95% C) Heterogenehy, Chi ^a = 1 Test for overall effect 2 Study or Subgroup Chen Yang 2014 Total (95% C) Heterogenehy, Chi ^a = 1 Test for overall effect 2 Study or Subgroup Total (95% C) Heterogenehy Chi ^a = 1 Test for overall effect 2 Study or Subgroup Feng Wenting 2022 Tang 2014 Test for overall effect 2 Study or Subgroup Feng Wenting 2022	$\label{eq:constraints} \begin{split} & \begin{tabular}{lllllllllllllllllllllllllllllllllll$	SE SE 0.4258231 0.4258231 0.4258231 0.37731242 0.37731242 0.37731242 90; P = 0% 011 SE 0.47717543 0.47717543 0.57640345 73); P = 0% 0.26137887 0.226137887 0.226137887 40); P = 0% 0.011 SE 0.3250225 0.3437057 0.38073977 0.34705202 40); P = 0% 001) SE SE 0.34705202 40); P = 0% 0011 SE 0.34503267 0.34503267 0.34503267 0.345032761 0.32560225	Weinht 2.9% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 3.7% 100.0% Weinht 31.8% 68.2% 100.0% Weinht 31.8% 68.2% 100.0% Weinht 20.8% 52.6% 100.0% Weinht 108.6% 52.6% 100.0% Weinht 20.8% 52.6% 20.0% 2.9%	N: Fixed, 95%, CT 28(1): 26, 663 28(1): 26, 663 23(1): 13(1): 14(87) 23(1): 13(1): 14(87) 23(1): 13(1): 14(87) 23(1): 13(1): 14(87) 23(1): 14(87) 23(1): 14(87) 23(1): 14(1): 14(1): 0445 Ratio N: Fixed, 95%, CT 23(1): 14(3): 34(1): 0445 Ratio N: Fixed, 95%, CT 1: 97(1): 14(1): 14(1): 35(1): 14(1): 14(1): 14(1): 35(1): 14(1): 14(1): 14(1): 35(1): 14(1)	M. Fixed, 9	Six ct Six c	10
Cheng Xiao 2020 Liv YongY 2002 Zhang, L. 2019 Zhang, Y. 2019 Zhang Yu. 2016 Total (95% C) Heterogeneity: Chi" = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2020 Liv YongY 2002 Total (95% C) Heterogeneity: Chi" = 1 Test for overall effect 2 Study or Subgroup Total (95% C) Heterogeneity: Chi" = 1 Test for overall effect 2 Study or Subgroup Study or Subgroup Study or Subgroup Study or Subgroup Test for overall effect 2 Study or Subgroup Study or Subgroup Test for overall effect 2 Study or Subgroup Heterogeneity: Chi" = 1 Test for overall effect 2 Study or Subgroup Test for overall effect 2 Study or Subgroup Feng Wenting 2022 Lin Shuang 2021 Total (95% C) Heterogeneity: Chi" = 1 Test for overall effect 2 Study or Subgroup Feng Wenting 2022 Lin Shuang 2021 Total (95% C)	Lon(Code Ratio) 1.0002179 1.1041492 0.07243144 0.9744517988 1.91, df 2, df = 0, 0 2 = 9.66 (° < 0.000 1.07445174 1.9746505 0.12, df = 1 (° = 0, 1 1.87494505 0.12, df = 1 (° = 0, 1 0.8658054 0.86499744 0.70, df = 1 (° = 0, 1 1.28808153 1.0757982 1.28808153 1.0757982 1.28808153 1.288085	SE SE 0.4258231 0.4258231 0.4258231 0.37731242 0.37731242 0.37731242 (3)731242 0.37731242 (3)731242 0.37731242 (3)731242 0.37731242 (3)731242 0.37731242 (3)731242 0.37731242 (3)731731242 0.37731242 (3)727312929 0.38273929 (3)26137887 40); P = 0% (3)727 0.38237027 (3)7937202 40); P = 0% (3)1937202 40); P = 0% (3)1937202 0.32350225	Weinht 2.9% 2.9% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 3.7% 100.0% Weinht 96.2% 31.8% 96.2% 20.8% 100.0% Weinht 96.2% 100.0% Weinht 96.2% 100.0% Weinht 97.1% 2.9% 97.1% 2.9%	W. Freed, 99%, C1 2891, 125, 663 2891, 125, 663 2891, 125, 663 2891, 125, 663 231, 111, 487 202, 11, 75, 223 Weith Read, 935, C1 Models Ratio M. Freed, 95%, C1 206, 11, 90, 123, 124, 123, 124 206, 11, 90, 124, 124, 125, 124 Odds Ratio M. Freed, 95%, C1 238, 143, 338 264, 12, 74, 4.03 232, 11, 43, 348 2.64, 11, 74, 4.03 2.36, 11, 42, 14, 4.03 2.37, 11, 44, 316 2.46, 11, 42, 44, 368 0.468, Ratio M. Freed, 95%, C1 1.97, 11, 84, 368 2.38, 11, 42, 74, 126, 589 2.44, 12, 82, 844 2.48, 11, 82, 338 0.468, Ratio M. Freed, 95%, C1 3.38, 11, 14, 74, 126 2.44, 126, 2.449 2.44, 126, 2.449 2.44, 11, 12, 2.459 2.44, 126, 2.441 2.44, 126, 2.441 2.44, 126, 2.441 2.44, 126, 2.441 2.44, 126, 2.441 <td>M. Fixed, 9</td> <td>SSC CI SSS C</td> <td></td>	M. Fixed, 9	SSC CI SSS C	
Cheng Xiao 2020 Liv YongY 2002 Zhang Xu 2019 Zhang Xu 2019 Total (9% C) Heterogeneity: Chi ^{ae} = 1 Total 70 verail effect 2 Study or Suboroup Cheng Xiao 2020 Total (9% C) Heterogeneity: Chi ^{ae} = 1 Cheng Xiao 2020 Zhang Xu 2019 Total (9% C) Heterogeneity: Chi ^{ae} = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2020 Zhang Xu 2019 Total (9% C) Heterogeneity: Chi ^{ae} = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2020 Zhang Zu 2019 Total (9% C) Heterogeneity: Chi ^{ae} = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2021 Total (9% C) Heterogeneity: Chi ^{ae} = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2019 Total (9% C) Heterogeneity: Chi ^{ae} = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2019 Total (9% C) Heterogeneity: Chi ^{ae} = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2021 Total (9% C) Heterogeneity: Chi ^{ae} = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2021 Total (9% C) Heterogeneity: Chi ^{ae} = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2021 Total (9% C) Heterogeneity: Chi ^{ae} = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2021 Total (9% C) Heterogeneity: Chi ^{ae} = 1 Total (9% C)	LoniCode Ratio 1.0002179 1.1002179 1.1002179 1.0002179 1.0002179 1.91, df = 0; P = 0.2 2.9.86 (P < 0.000 LoniCodes Ratio 1.62401748 1.62401748 1.62401748 1.62401748 1.62401748 1.62401748 1.62701748 1.62701748 0.02764055 0.12, df = 1 (P = 0. 2.4 70 (P < 0.000 LoniCodes Ratio 0.6766055 0.686495744 0.70, df = 1 (P = 0. 0.6766055 0.686495744 0.70, df = 1 (P = 0. 0.6766055 0.68649574 0.776749615 1.202806153 1.202806153 1.202806153 1.202806153 1.20292 0.277 (P < 0.001 LoniCodes Ratio 0.68606574 0.68649574 0.777 (P < 0.001 LoniCodes Ratio 0.68606574 0.68648574 0.777 (P < 0.001 LoniCodes Ratio 0.68606577 1.74728915 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.6860658 0.686058 0.686059 0.777 (P < 0.001 0.0059557 0.00595 0.00595 0.00595 0.00595 0.00595 0.00595 0.005 0.00595 0.00595 0.005 0.00595 0.00595 0.005 0.00595 0.005 0.00595 0.005 0.00595 0.005 0.00595 0.005 0.00595 0.005 0.00595 0.005 0.00595 0.005 0.00595 0.005	SE 0.4258231 0.4258231 0.37731242 0.37731242 037731242 037731242 037731242 037731242 037731242 037731242 037731242 037731242 0371731242 037217543 0.57640345 0.30273929 0.26137887 40); P = 0% 001) SE 0.34637027 0.34637027 0.34637027 0.34637027 0.34637027 0.34937020 40); P = 0% 001) SE 0.3405837027 0.3405837027 0.3405837027 0.3405837027 0.32590226 0.32350225 37); F = 0%	Weinht 2.9% 2.9% 2.9% 3.7% 100.0% Weinht 40.7% 100.0% Weinht 68.2% 3.8% 68.2% 3.8% 100.0% Weinht 116.6% 62.2% 100.0% Weinht 97.1% 2.9% 100.0%	N: Fixed, 95%, CT 2891, 125, 655 2891, 125, 655 2891, 125, 657 2891, 125, 657 2891, 125, 657 2891, 125, 657 2891, 125, 657 2891, 124, 687 2891, 124, 687 2891, 124, 124 2891, 124, 124 2894, 1242944, 124 2894, 12	M. Fixed, 9 .01 0,1 7 Favours (experimental) F avours (experimental) F .001 0,1 1 Favours (experimental) F .0046 R .0466 R	Six CI	
Cheng Xiao 2020 Liv Yongh 2002 Zhang,L. 2019 Zhang,L. 2019 Zhang Yu. 2016 Total (95% C) Heterogenehy, Chi" = 1 Total (95% C) Liu Yongh 2002 Total (95% C) Heterogenehy, Chi" = 1 Test for overall effect 2 Study or Subgroup Zhang,L. 2019 Total (95% C) Heterogenehy, Chi" = 1 Test for overall effect 2 Study or Subgroup Zhang,L. 2019 Total (95% C) Heterogenehy, Chi" = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2020 Zhang,L. 2019 Total (95% C) Heterogenehy, Chi" = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2021 Total (95% C) Heterogenehy, Chi" = 1 Test for overall effect 2 Study or Subgroup Chen Yang 2014 Total (95% C) Heterogenehy, Chi" = 1 Test for overall effect 2 Study or Subgroup Chen Yang 2014 Total (95% C) Heterogenehy, Chi" = 1 Test for overall effect 2 Study or Subgroup Feng Wenting 2022 Tang,L. 2019 Total (95% C) Heterogenehy, Chi" = 1 Test for overall effect 2 Study or Subgroup Feng Wenting 2022 Total (95% C) Heterogenehy, Chi" = 1 Test for overall effect 2 Study or Subgroup Feng Wenting 2022 Total (95% C) Heterogenehy, Chi" = 1 Test for overall effect 2 Study or Subgroup Feng Wenting 2022 Total (95% C) Heterogenehy, Chi" = 1 Test for overall effect 2 Study or Subgroup Feng Wenting 2022 Total (95% C) Heterogenehy, Chi" = 1 Study or Subgroup Feng Wenting 2022 Total (95% C) Heterogenehy, Chi" = 1 Study or Subgroup Feng Wenting 2022 Study or Subgroup	$\label{eq:constraints} \begin{split} & \begin{tabular}{lllllllllllllllllllllllllllllllllll$	SE 0.4258231 0.4258231 0.37731242 0.37731242 037731242 037731242 037731242 037731242 037731242 037731242 03731242 03731242 03731242 03731242 03731742 038703707 0.22081069 0.3247027 0.3247027 0.3247027 0.3247027 0.3247027 0.3247027 0.3247027 0.3247027 0.3247027 0.3247027 0.3247027 0.3247027 0.3247027 0.3247027 0.3250225 37); P = 0% 0001)	Weinht 2.9% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 90.6% Weinht 99.7% 90.7% 90.7% 90.7% Weinht 90.7% 100.0% Weinht 90.2% 100.0% Weinht 2.0% 100.0% Weinht 2.0% 100.0% Weinht 2.0% 100.0%	N. These 19% CT 28(1):26, 663 28(1):26, 663 23(1):11, 487 233(1):11, 487 233(1):11, 487 233(1):14, 487 233(1):14, 487 233(1):14, 487 233(1):14, 287 233(1):14, 287 233(1):14, 287 235(1):14, 287 235(1):1	.01 0.1 - .02 0.1 1 Favours [experimenta]] F. Odde R 0.01 0.1 1 0.01 0.1 1 0.01 0.1 1 Favours [experimenta]] F. Odde R M. Fixed, 1 Favours [experimenta]] F. Odde R N. Fixed, 1 Favours [experimenta] F. Odde R N. Fixed, 1 0.01 0.1 1 Favours [experimenta] F.	SK CI Vours [control] Vours [control]	
Cheng Xiao 2020 Un Yong Xiao 2020 Zhang Xi 2010 Zhang Xi 2010 Zhang Xi 2010 Total (8% C) Heterogenety: Chi# = 1 Test for overall effect 2 Study of Subgroup Cheng Xiao 2020 Total (8% C) Heterogenety: Chi# = 1 Test for overall effect 2 Study of Subgroup Cheng Xiao 2020 Zhang,L 2019 Total (8% C) Heterogenety: Chi# = 1 Test for overall effect 2 Study of Subgroup Heterogenety: Chi# = 1 Test for overall effect 2 Study of Subgroup Heterogenety: Chi# = 1 Test for overall effect 2 Study of Subgroup Heterogenety: Chi# = 1 Test for overall effect 2 Study of Subgroup Heterogenety: Chi# = 1 Test for overall effect 2 Study of Subgroup Test for overall effect 2 Study or Subgroup	$\label{eq:constraints} \begin{split} & \begin{tabular}{lllllllllllllllllllllllllllllllllll$	SE 0.4258231 0.4258231 0.3572667 0.07643542 0.37731242 0.37731242 (3)731242 (3)731242 (3)731242 (3)731242 (3)731242 (3)731242 (3)731242 (3)731242 (3)73174 (3)7731242 (3)7640345 (3)7747929 (3)273929 (3)2637927929 (3)2637027 (3)2637027 (3)2637027 (3)2637027 (3)2637027 (3)2637027 (3)2637027 (3)2637027 (3)2637027 (3)2637027 (3)2637027 (3)2637027 (3)26382625 (3)27)27 (3)27)27 (3)27)27 (3)27)27 (3)26382525 (3)27)27	Weinht 2.9% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 3.7% 100.0% Weinht Weinht 31.8% 100.0% 96.2% 96.2% 3.8% 100.0% 100.0% Weinht 52.8% 100.0% 100.0% Weinht 52.8% 100.0% 29.8% 100.0% 29.3% 100.0% 100.0%	W.Treed, 95%, CT. 28911, 25, 663 28911, 25, 663 28911, 25, 663 28911, 25, 663 2311, 111, 487 202 [1,75, 233] Codes Ratio M. Brand, 555, CT. M. Brand, 555, CT. Soft 199, 122, 20, 271 Soft 199, 123, 201, 21, 201, 213 238 [1,43, 24, 20, 271 Soft 199, 123, 201, 21, 201, 213 238 [1,43, 24] 248 [1,42, 24] Codes Ratio M. Freed, 95%, CT. 197 [1,61, 2,14] 197 [1,61, 2,14] 198 [1,82, 2,45] Odds Ratio M. Freed, 95%, CT. 197 [1,81, 2,14] 198 [1,82, 2,15] Odds Ratio M. Freed, 95%, CT. 2,48 [1,82, 3,38] Odds Ratio M. Freed, 95%, CT. 2,113 [1,44, 3,15] 2,48 [1,82, 3,38] 2,41 [2,16, 2,69]	M. Fixed, 9	SSC CI	
Cheng Xiao 2020 Liv YongY 2020 Zhang Xi 2019 Zhang Xi 2019 Zhang Yu 2016 Total (95% C) Heterogeneity: Chi# = 1 Total 70 verail effect 2 Study or Suboroup Cheng Xiao 2020 Total (95% C) Heterogeneity: Chi# = 1 Cheng Xiao 2020 Zhang Xi 2019 Total (95% C) Heterogeneity: Chi# = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2020 Zhang Xi 2019 Total (95% C) Heterogeneity: Chi# = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2020 Zhang Zi 2019 Total (95% C) Heterogeneity: Chi# = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2020 Zhang Zi 2019 Total (95% C) Heterogeneity: Chi# = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2019 Total (95% C) Heterogeneity: Chi# = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2019 Total (95% C) Heterogeneity: Chi# = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2021 Total (95% C) Heterogeneity: Chi# = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2021 Total (95% C) Heterogeneity: Chi# = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2021 Total (95% C) Heterogeneity: Chi# = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2021 Total (95% C) Heterogeneity: Chi# = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2021 Total (95% C) Heterogeneity: Chi# = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2021 Total (95% C) Heterogeneity: Chi# = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2021 Total (95% C) Heterogeneity: Chi# = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2021 Total (95% C) Heterogeneity: Chi# = 1 Test for overail effect 2 Study or Suboroup Cheng Xiao 2 Cheng Xiao 2 Ch	$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	SE SE 0.4258231 0.435728667 0.03578667 0.07643542 0.37731242 0.37731242 90; P = 0% 011 SE 0.47717543 0.57640345 0.57640345 73); P = 0% 0.01 SE 0.3275929 0.26137887 49); P = 0% 0001) SE 0.34273929 0.26137887 40); P = 0% 0.037027 0.345737027 0.38708477 0.34537027 0.38708477 0.01) SE 0.34537027 0.38708477 0.019 SE 0.05836226 0.32350225 37); P = 0% 0001)	Weinht 2.9% 2.9% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.9% 3.7% 100.0% Weinht 96.2% 100.0% Weinht 96.2% 100.0% Weinht 96.2% 100.0% Weinht 96.2% 100.0% Weinht 110.0% Weinht 96.2% 100.0% Weinht 100.0% Weinht 100.0% Weinht 100.0% Weinht 2.9% 100.0%	N: Fixed, 95%, CT 2891, 125, 655 2891, 125, 655 2891, 125, 657 2331, 134, 487 2331, 134, 487 2331, 134, 487 2331, 134, 487 2331, 134, 487 2321, 135, 487 0458 Ratio N: Fixed, 95%, CT 2331, 134, 487 2381, 134, 388 2641, 137, 340 2645 Ratio N: Fixed, 95%, CT 2371, 154, 368 2641, 137, 145, 274 2381, 145, 274 2381, 145, 274 2381, 145, 274 2381, 145, 274 2381, 145, 274 2382, 274, 126, 158 237, 145, 368 237, 145, 368 2382, 237, 154, 368 2382, 23	0.1 - 0.1 - Favours (experimental) F - 0.01 0.1	Six CI	10
Cheng Xiao 2020 Un Yong Xiao 2020 Zhang Xi. 2019 Zhang Xi. 2019 Zhang Yu. 2016 Total (95% C) Heterogenethy: Chi# = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2020 Total (95% C) Heterogenethy: Chi# = 1 Total (95% C) Total (95% C) Heterogenethy: Chi# = 1 Total (95% C) Heterogenethy: Chi# = 1 Test for overall effect 2 Study or Subgroup Frag Wenting 2022 Total (95% C) Heterogenethy: Chi# = 1 Test for overall effect 2 Study or Subgroup Heterogenethy: Chi# = 1 Test for overall effect 2 Study or Subgroup Heterogenethy: Chi# = 1 Test for overall effect 2 Study or Subgroup Test of Study C (2) Heterogenethy: Chi# = 1 Test for overall effect 2 Study or Subgroup Test for overall effect 2 Study or Subgroup	$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	SE 0.4258231 0.4258231 0.37731242 0.37731242 037731242 037731242 037731242 037731242 037731242 0.3273027 0.3273027 0.26137887 0.226137887 0.226137887 0.226137887 0.32475292 0.3247027 0.3247027 0.34775937027 0.34775937027 40); I* = 0% 001) SE 0.32570227 37); I* = 0% 0001) SE 0.3250225 37); I* = 0% 0001) SE 0.50600036	Weinht 2.9% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 3.7% 100.0% Weinht 99.3% 100.0% Weinht 98.2% 100.0% Weinht 2.8% 100.0% Weinht 2.6% 100.0% Weinht 2.8% 100.0% Weinht 2.9% 100.0% Weinht 2.9% 100.0%	N: Fixed, 95%, CT 28(1): 26, 663 28(1): 26, 663 23(1): 13(1): 14(87) 23(1): 14(1): 14(1): 06ds Ratio N: Fixed, 95%, CT 23(1): 14(3): 24(1): 14(1): 14(1): 06ds Ratio N: Fixed, 95%, CT 24(1): 14(2): 24(1): 14(1): 14(2): 24(1): 24(1): 14(1): 14(1): 24(1): 14(1): 14(1): 14(1): 24(1): 14(1): 14(1): 14(1): 14(1): 24(1): 14(1): 14(1): 14(1): 14(1): 14(1): 14(1): 14(1): 14(1): 1	.01 0.1 - .02 0.1 1 Favours [experimenta]] F. Odde R 0.01 0.1 1 0.01 0.1 1 Favours [experimenta]] F. Odde R M. Fixed. 1 0.01 0.1 1 Favours [experimenta]] F. Odde R N. Fixed. 1 0.01 0.1 1 Favours [experimenta]] F. Odde R M. Fixed. 1 0.01 0.1 1 Favours [experimenta] F. 0.01 0.1 1 Favours [experimenta] F. 0.01 0.1 1 Favours [experimenta] F. Odde R M. Fixed. 1 0.01 0.1 1 Favours [experimenta] F. Odde R M. Fixed. 1 Favours [experimenta] F. Odde R M. Fixed. 1	Six CI Six C	
Cheng Xiao 2020 Usi Yong Xiao 2020 Zhang Li Yong Xiao 2020 Zhang Li 2019 Zhang Li 2019 Zhang Li 2016 Total (95% C) Heterogenety: Chi# = 1 Test for overall effect 2 Usi Yong Yiao 2020 Total (95% C) Heterogenety: Chi# = 1 Test for overall effect 2 Study of Subgroup Cheng Xiao 2020 Ling Xiao 2	log() def Ratio L 1 0002179 1 11841492 0 057243141 0 057424314 0 054457989 1.91, df = 3 (P = 0.5 2 = 9.66 (P < 0.000 1.91, df = 3 (P = 0.5 2 = 9.66 (P < 0.000 1.92, df 1.48 1.67481745 1.67481745 0.12, df = 1 (P = 0. 2 = 4.70 (P < 0.001 0.67650054 0.6863062 0.47, df = 1 (P = 0. 2 = 4.9 (P < 0.001 0.67650054 0.687650054 0.687650054 0.67650054	SE SE 0.4258231 0.4258231 0.4258231 0.37731242 0.37731242 0.37731242 (3)731242 0.37731242 (3)731242 0.37731242 (3)731242 0.37731242 (3)731242 0.37731242 (3)731242 0.37731242 (3)73174 0.57640345 (3)73174 0.3273929 (0.32273929 0.20137887 40); * = 0% 0.0211 SE 0.34637027 0.34637027 0.387027 0.319037202 40); * = 0% 0001) SE 0.32550225 377; * = 0% 0.0011 SE	Weinht 2.9% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 3.7% 100.0% Weinht 40.7% 100.0% Weinht 96.2% 31.8% 96.2% 100.0% Weinht 96.2% 100.0% Weinht 97.1% 2.9% 100.0% Weinht 97.1% 2.9% 100.0% Weinht 97.1% 2.9% 100.0%	W. Treed, 95%, C1 2891, 125, 663 2891, 125, 663 2891, 125, 663 2891, 125, 663 231, 111, 487 202, 11, 75, 223 M. Encol, 253, 213 M. Encol, 253, 213 M. Encol, 254, 213 M. Encol, 254, 213, 213 M. Encol, 254, 213, 213 M. Encol, 254, 213, 213, 213 M. Encol, 254, 213, 213, 213 M. Encol, 254, 214, 213, 213 2.64 [1,73, 4.03] 2.64 [1,73, 4.03] 2.64 [1,74, 4.03] 2.64 [1,73, 4.03] 2.64 [1,74, 2.36] M. Freed, 95%, C1 1.97 [1,81, 2.14] 2.33 [1,84, 71, 4.03] Odds Ratio M. Freed, 95%, C1 3.24 [1,82, 2.45] Odds Ratio M. Freed, 95%, C1 2.11 [1,44, 316] 2.44 [1,74, 2.69] 3.24 [1,72, 6.10] 2.43 [2,18, 2.71] Odds Ratio M. Freed, 95%, C1 0.443 Ratio M. Freed, 95%, C1 0.41 [0,04, 0.30] 0.59%, C1	M. Fixed, 9 0.01 0.1 Favours [experimenta] F Favours [experimenta] F 0.01 0.1 Favours [experimenta] F 0.01 0.1 1 Favours [experimenta] F	SSC CI	10
Cheng Xiao 2020 Un Yong Yo20 Zhang Xi 2019 Zhang Xi 2019 Zhang Yu 2016 Total (95% C) Heterogeneity: Chi# = 1 Total (95% C) Heterogeneity: Chi# = 1 Cheng Xiao 2020 Total (95% C) Heterogeneity: Chi# = 1 Study or Subarcoup Cheng Xiao 2020 Zhang Xi 2019 Total (95% C) Heterogeneity: Chi# = 1 Test for overall effect 2 Study or Subarcoup Cheng Xiao 2020 Zhang Xi 2019 Total (95% C) Heterogeneity: Chi# = 1 Test for overall effect 2 Study or Subarcoup Cheng Xiao 2020 Zhang Zi 2019 Total (95% C) Heterogeneity: Chi# = 1 Test for overall effect 2 Study or Subarcoup Cheng Xiao 2021 Total (95% C) Heterogeneity: Chi# = 1 Test for overall effect 2 Study or Subarcoup Cheng Xiao 2021 Total (95% C) Heterogeneity: Chi# = 1 Test for overall effect 2 Study or Subarcoup Cheng Xiao 2021 Total (95% C) Heterogeneity: Chi# = 1 Test for overall effect 2 Study or Subarcoup Total (95% C) Heterogeneity: Chi# = 1 Test for overall effect 2 Study or Subarcoup Total (95% C) Heterogeneity: Chi# = 1 Test for overall effect 2 Study or Subarcoup Total (95% C) Heterogeneity: Chi# = 1 Test for overall effect 2 Study or Subarcoup Total (95% C) Heterogeneity: Chi# = 1 Test for overall effect 2 Study or Subarcoup Total (95% C) Heterogeneity: Chi# = 1 Test for overall effect 2 Study or Subarcoup Total (95% C)	$\label{eq:constraints} \begin{split} & \begin{tabular}{lllllllllllllllllllllllllllllllllll$	SE 0.4258231 0.4258231 0.37731242 0.37731242 037731242 037731242 037731242 037731242 037731242 037731242 03731242 03731242 037731242 037731242 037731242 037731242 03725929 0.26137887 40); I* = 0% 0001) SE 0.34275929 0.343765 0.3437027 0.34537027 0.34537262 0.32350225 37); I* = 0% 0001) SE 0.55600036 0.81190632	Weinht 2.9% 2.9% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 3.7% 100.0% Weinht 65.3% 40.7% 100.0% Weinht 68.2% 100.0% Weinht 96.2% 100.0% Weinht 96.2% 100.0% Weinht 96.2% 100.0% Weinht 96.2% 100.0% Weinht 97.1% 2.9% 100.0% Meinht 72.0% 28.0% 100.0%	N: Fixed, 95%, CT 2891, 125, 665 2891, 125, 665 2891, 125, 665 2301, 130, 612 2331, 131, 487 2331, 134, 487 2331, 134, 487 2331, 134, 487 2331, 134, 487 2331, 134, 487 2341, 135, 2331 0445 Ratio N: Fixed, 95%, CT 2341, 235, 234 2381, 134, 3381 2441, 137, 340 2441, 137, 244, 3381 2441, 137, 244, 3381 2441, 137, 244, 3381 2441, 134, 245 2441, 134, 245 2441, 134, 245 2441, 134, 245 2441, 124, 246, 35%, CT 2441, 2145, 246, 35\%, CT 2445, 35\%, 35\%, 35\%, 35\%, 35\%, 35\%, 35\%, 35	.01 0.1 1 Favours (experimental) Favours (ex	Six CI	10
Cheng Xiao 2020 Liv Yong Xiao 2020 Zhang Xia 2010 Zhang Xia 2010 Zhang Xia 2016 Total (95% C) Heterogenetic, Chill [®] = 1 Test for overall effect 2 Study or Subgroup Cheng Xiao 2020 Liv Yong Xiao 2020 Total (95% C) Heterogenetic, Chil [®] = 1 Study or Subgroup Total (95% C) Heterogenetic, Chil [®] = 1 Study or Subgroup Ferg Wenting 2022 Lin Shuang 2021 Total (95% C) Heterogenetic, Chil [®] = 1 Study or Subgroup Ferg Wenting 2022 Lin Shuang 2021 Total (95% C) Heterogenetic, Chil [®] = 1 Total (95% C) Heterogenetic, Chil [®] = 1 Study or Subgroup Ferg Wenting 2022 Zhang,L. 2019 Total (95% C) Heterogenetic, Chil [®] = 1 Test for overall effect 2 Study or Subgroup Ferg Wenting 2022 Total (95% C) Heterogenetic, Chil [®] = 1 Test for overall effect 2 Study or Subgroup Heterogenetic, Chil [®] = 1 Test for overall effect 2 Study or Subgroup Heterogenetic, Chil [®] = 1 Test for overall effect 2 Study or Subgroup Heterogenetic, Chil [®] = 1 Test for overall effect 2 Study or Subgroup Heterogenetic, Chil [®] = 1 Test for overall effect 2 Study or Subgroup Heterogenetic, Chil [®] = 1 Test for overall effect 2 Study or Subgroup Heterogenetic, Chil [®] = 1 Test for overall effect 2 Study or Subgroup Heterogenetic, Chil [®] = 1 Test for overall effect 2 Study or Subgroup Heterogenetic, Chil [®] = 1 Test for overall effect 2 Study or Subgroup Heterogenetic, Chil [®] = 1 Test for overall effect 2 Study or Subgroup Heterogenetic, Chil [®] = 1 Test for overall effect 2 Study or Subgroup Heterogenetic, Chil [®] = 1 Study or Subgroup Heterogenetic, Chil [®] = 1 Heterogenetic, Chil [®] = 1 Heter	LoniCode Ratio 1.0002179 1.10002179 1.10002179 1.0002179 1.0002179 1.0002179 2.40.6 (P < 0.000 LoniCode Ratio 1.52401748 1.8794505 0.12, df = 1 (P = 0. 2.4.70 (P < 0.000 LoniCodes Ratio 0.8646974 0.8668602 0.47, df = 1 (P = 0. 2.4.49 (P < 0.000 LoniCodes Ratio 0.67650054 0.8646974 0.75769054 0.8364974 0.75769051 1.00757522 0.75769055 1.84, df = 2 (P = 0. 2.4.77 (P < 0.000 LoniCodes Ratio 0.8364974 0.75769054 0.80680707 1.7402893 0.8060707 1.7402893 0.7507895 1.740289 1.740289 1.740289 1.740289 1.740289	SE 0.4258231 0.4258231 0.37731242 0.37731242 037731242 037731242 037731242 037731242 037731242 0.37731242 0.37731242 0.37731242 0.37731242 0.37731242 0.37731242 0.37731242 0.37731242 0.32750236 0.32750236 0.32750236 0.22081069 40); I* = 0% 0001) SE 0.32457327 0.32457327 0.32457327 0.32457327 0.32457327 0.32457327 0.3250225 37); I* = 0% 0001) SE 0.5000056 0.32190632 37); I* = 0% 0001) SE 0.5000056 0.31190632 82); I* = 0%	Weinht 2.9% 2.9% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 3.7% 100.0% Weight 40.7% 100.0% Weight 100.0% Weight 100.0% Weight 100.0% Weight 100.0% Weight 100.0% 95.2% 100.0% Weight 97.1% 28.0% 100.0%	N. Theod. 95%. CT 2891.126, 663 2081.126, 663 2081.236, 663 2331.111, 4877 2331.111, 4877 2331.114, 4877 2321.1278, 2331 0445 Ratio N. Freed, 95%. CT 3281.123, 2437 2563 [2,74, 11.57] 0445 Ratio N. Freed, 95%. CT 328 [1,43, 346] 2,64 [1,73, 4,03] 0445 Ratio N. Freed, 95%. CT 328 [1,43, 346] 1,99 [1,81, 2,14] 1,99 [1,81, 2,14] 1,99 [1,81, 2,14] 1,99 [1,81, 2,14] 1,99 [1,81, 2,14] 1,99 [1,81, 2,14] 1,99 [1,82, 2,15] 0445 Ratio N. Freed, 95%. CT 32, 217 [1,44, 3,16] 1,99 [1,81, 2,14] 1,99 [1,82, 2,15] 0445 Ratio N. Freed, 95%. CT 32, 247 [1,26, 269] 2, 248 [1,82, 3,38] 0445 Ratio N. Freed, 95%. CT 32, 247 [1,26, 269] 2, 241 [2,16, 269] 2, 241 [2,2,16] 2, 243 [2,18, 2,71]	M. Fixed, 9 .01 0.1 Favours [experimenta] F Pavours [Sk cl	

Fig 3.

https://doi.org/10.1371/journal.pone.0296348.g003

[33] found that elderly individuals taking psychotropic drugs have a 2.4 times higher risk of falls compared to those who do not take these medications. Multiple guidelines [34, 35] have pointed out that sedatives and hypnotics can increase the risk of falls, which is consistent with the results of this study. Sedatives and hypnotics (OR = 2.36) are a risk factor for falls in elderly residents of nursing homes. Therefore, Medical and nursing staff in elderly care institutions should pay attention to the treatment of various chronic diseases in elderly residents, take medications on time and use medications reasonably, and strengthen the observation of medication side effects. For elderly individuals with visual impairment, early detection and treatment of diseases that cause visual impairment should be carried out, or the use of reading glasses to correct vision should be considered.

4.2.3 Other factors. The results of this study showed that fear of falling, cognitive status, lack of self-awareness of abilities, walking aids, and frequent reminders to prevent falls are risk factors for falls in older adults in long-term care facilities. A study [36] found that older adults who fear falling have a 4.14 times higher risk of falling than those who do not. Fear of falling is an emotional and psychological disorder closely related to falling, which is often manifested as continuous worry about falling in daily life and avoidance of activities within the capacity. Declining cognitive abilities can affect the perception and coping abilities of older adults to the outside world, thereby increasing the risk of falls [37], which is consistent with the findings reported by scholars such as Sun Xiaoya [38]. Older adults with lower activities of daily living and poorer motor function are more likely to fall [39]. In addition, older adults' lack of self-awareness of abilities includes: overconfidence, lack of protection when engaging in activities such as getting out of bed, reaching for high objects, or hanging clothes, which can lead to falls, or even if they do fall, they are unwilling to seek help from others; inadequate awareness of fall prevention, not realizing the serious consequences that falls may cause [13]. This study showed that walking aids (OR = 1.98) are a contributing factor to falls, which is consistent with the findings of Gell [40]. Improper use of walking aids can increase the risk of falls [41]. Regular reminders from nursing staff to prevent falls have a positive impact on reducing falls in older adults. Therefore, for older adults in long-term care facilities, their activities of daily living should be regularly assessed, and they should be encouraged to engage in appropriate activities to improve their abilities. Regular health education lectures on fall prevention should also be provided to enhance their awareness of fall prevention, while guiding them on the correct use of walking aids.

4.3 Limitations

Although this study included 11 provinces, municipalities, and autonomous regions in China, there is limited literature on the factors influencing falls in older adults in Chinese long-term care facilities. Among all retrieved literature, there were more cross-sectional studies with a local focus, while the number of cohort studies and case-control studies was extremely small, with small sample sizes and inadequate coverage. There were significant differences in sample size among the included studies, with the largest sample size being 683 cases and the smallest being 74 cases, leading to some inconsistencies. Additionally, the study results may have been affected by objective factors such as the source of literature and the focus of the research. Therefore, it is necessary to conduct higher quality case-control and cohort studies on falls in older adults in Chinese long-term care facilities, to provide a basis for fall prevention strategies in this population.

5 Conclusion

This study showed that the incidence of falls among elderly residents in Chinese nursing homes was relatively high. The main contributing factors to falls among elderly residents in

Chinese nursing homes included age, gender, visual impairment, sedative-hypnotics use, fear of falling, hypertension, static balance, having three or more chronic diseases, cognitive status, walking aids, fall-related chronic diseases, self-awareness of abilities, and being frequently reminded to prevent falls. Medical and nursing staff in elderly care institutions should pay attention to these factors and conduct timely screening and interventions to reduce the incidence of falls among elderly residents and avoid the negative impact of falls on their quality of life.

Supporting information

S1 Checklist. (DOCX)

S1 File. Search strategy. (DOCX)

Author Contributions

Conceptualization: Xiaoxing Huang, Yunlan Jiang.

Data curation: Xiaoxing Huang, Yunlan Jiang, Yaxin Liu.

Formal analysis: Xiaoxing Huang, Liyin Shen, Jing Pan.

Investigation: Xiaoxing Huang, Liyin Shen.

Methodology: Xiaoxing Huang, Yaxin Liu, Jing Pan, Yue Zhang.

Project administration: Yunlan Jiang.

Software: Xiaoxing Huang, Jing Pan.

Supervision: Yunlan Jiang.

Validation: Xiaoxing Huang, Yunlan Jiang.

Visualization: Xiaoxing Huang, Yaxin Liu, Yue Zhang.

Writing - original draft: Xiaoxing Huang, Jing Pan.

Writing - review & editing: Xiaoxing Huang, Yunlan Jiang.

References

- 1. Zhenwu Zhai, Wenli Liu. Quality of the Seventh National Census Data and the New "Changes" in China's Population. Population Research. 2021; 45(03): 46–56.
- Xiaoyun Mu, Jiang Du, Yanli Ding, et al. Investigation on the Risk Factors of Falls in Elderly People in Nursing Homes in Shenyang City. Nursing Research. 2014; 28(21): 2598–2600. https://doi.org/10. 3969/j.issn.10096493.2014.21.012
- Wen Yan, Xuemei Zhang, Qian Chen. Study on the Effectiveness of Fall Prevention and Its Influencing Factors in Elderly People in Nursing Homes. Chinese Journal of General Practice. 2019; 22(19): 2356– 2360. https://doi.org/10.12114/j.issn.1007-9572.2019.00.324
- Gibson M J, Andres R O, Kennedy T E, et al. Kellogg International Work Group on the Prevention of Falls by the Elderly. The prevention of falls in later life Danish Medical Bulletin. 1987; 34(4): 1–24.
- 5. Lian Hao, Sheng Li, Fang Xiang, et al. Time Trend Analysis of the Falling Mortality Rate in China from 2003 to 2018. Modern Preventive Medicine. 2020; 47(23): 4357–4360.
- 6. Lintao Li, Shengyong Wang. Disease Burden and Risk Factors of Falls in the Elderly. Chinese Journal of Epidemiology. 2001; 04: 28–30. https://doi.org/10.3760/j.issn:0254–6450.2001.04.010
- White U E, Black A A, Wood J M, et al. Fear of falling in vision impairment. Optometry and vision science. 2015; 92(6): 730–735. https://doi.org/10.1097/OPX.00000000000596 PMID: 25930978

- Dan Jiang, Wei Liu, Dandan Huang, et al. Analysis of Fall Risk and Its Risk Factors in Elderly People in Nursing Homes. Modern Clinical Nursing. 2019; 18(05): 1–5. <u>https://doi.org/10.3969/j.issn.1671-8283</u>. 2019.05.001
- Kolola T. Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories. 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. 2018.
- Stang A. Critical evaluation of the Newcastle-Ottawa scale for the assessment of the quality of nonrandomized studies in meta-analyses. European journal of epidemiology. 2010; 25(9): 603–605. <u>https://</u> doi.org/10.1007/s10654-010-9491-z PMID: 20652370
- Xiantao Zeng, Hui Liu, Xi Chen, et al. Meta-analysis series four: quality assessment tools for observational studies. Chinese Journal of Evidence-Based Cardiovascular Medicine. 2012; 4(04): 297–299. https://doi.org/10.3969/j.1674-4055.2012.04.004
- Cuizha Li, Rui Xu, Shuhua Song. Analysis of the current status and influencing factors of falls in elderly residents of nursing homes. Chinese Journal of Geriatric Care Medicine. 2022; 20(01): 67–71. https:// doi.org/10.3969/j.issn.1672-2671.2022.01.021
- Wenting Feng, Tiantian Yan, Ruping Liu. Status and influencing factors of falls in elderly residents of nursing homes in Xinyang region. South China Journal of Preventive Medicine. 2022; 48(05): 551–555.
- 14. Shuang Lin. Study on the incidence and influencing factors of falls among the elderly in nursing homes in Shenyang City. China Medical University. 2021.
- Huiju Hu, Jing Han, Qiqun Tang, et al. Study on the current situation and influencing factors of falls among elderly residents in nursing homes in Tianjin and Tangshan. Modern Preventive Medicine. 2021; 48(11): 2018–2021.
- Xiao Cheng, Lixia Lei, Xuran Qiu, et al. Status and influencing factors of falls in elderly residents of nursing homes in Chenzhou City. Journal of Xiangnan University (Medical Science). 2020; 22(04): 56–59. https://doi.org/10.16500/j.cnki.1673-498x.2020.04.016
- Zhang L, Zeng Y, Weng C, et al. Epidemiological characteristics and factors influencing falls among elderly adults in long-term care facilities in Xiamen, China. Medicine. 2019; 98(8). <u>https://doi.org/10. 1097/MD.000000000014375 PMID: 30813138</u>
- Ming Zhao, Hao Wang, Yong He, et al. Epidemiological characteristics and risk factors of falls in elderly residents of nursing homes. Chinese Journal of Emergency Medicine. 2016; 25(5): 654–658. <u>https:// doi.org/10.3760/cma.j.issn.1671-0282.2016.05.022</u>
- Danyan Liang, Shengyun Duan, Ting Li, et al. Study on influencing factors of falls among elderly residents in nursing homes in Hohhot City. Injury Medicine (Electronic Edition). 2017; 6(01): 30–34. https://doi.org/10.3868/j.issn.2095-1566.2017.01.007
- Yu Zhang, Yan Wang, Yali Dai. Study on the incidence and influencing factors of falls among elderly residents in nursing homes in Urumqi City. Journal of Xinjiang Medical University. 2016; 39(08): 1032– 1034. https://doi.org/10.3969/j.issn.1009-5551.2016.08.023
- Yang Chen, Yayuan Ding, Nan Wang, et al. Investigation on the current status of falls among elderly residents in nursing homes in Nanjing City. Journal of Qilu Nursing. 2014; 20(04): 52–53. <u>https://doi.org/ 10.3969/j.issn.1006-7256.2014.04.027</u>
- Yongyi Liu. A case-control study on the risk factors of falls among elderly residents in nursing homes. Chinese Journal of Comprehensive Medicine. 2002; 3(6): 559–560.
- Ambrose A F, Paul G, Hausdorff J M. Risk factors for falls among older adults: a review of the literature. Maturitas. 2013; 75(1): 51–61. https://doi.org/10.1016/j.maturitas.2013.02.009 PMID: 23523272
- Zhou DD, Xu NT, Gao N, et al. Analysis of influencing factors for falls among elderly people in central urban area of Shanghai using structural equation model. Chinese Journal of Environmental & Occupational Medicine. 2019; 36(08): 703–709. https://doi.org/10.13213/j.cnki.jeom.2019.19223
- Yao YH, Zhou DD, Ling LM, et al. Investigation of falls among elderly people in Hongkou district of Shanghai. Injury Medicine (Electronic Edition). 2019; 8(02): 40–45. <u>https://doi.org/10.3868/j.issn.2095-1566.2019.02.009</u>
- 26. Wang LC, Zhang LQ, Zhang Y, et al. Application of balance and gait analysis in the evaluation of fall risk in the elderly. Chinese Journal of Rehabilitation Medicine. 2012; 27(03): 251–253. https://doi.org/10. 3969/j.issn.1001-1242.2012.03.014
- Zhang R, Lu Y, Zhang SS, et al. Analysis of comorbidity patterns and disease correlations among elderly people with chronic diseases in China. Chinese Journal of Public Health. 2019; 35(08): 1003– 1005. https://doi.org/10.11847/zgggws1120351
- Shi YH, Chen LX. Research progress on factors of visual impairment and safety management strategies for elderly people. Journal of General Nursing. 2023; 21(10): 1353–1356. https://doi.org/10.12104/ j.issn.1674-4748.2023.10.014

- Keel S, Xie J, Foreman J, et al. The prevalence of diabetic retinopathy in Australian adults with selfreported diabetes: the National Eye Health Survey. Ophthalmology. 2017; 124(7): 977–984. https://doi. org/10.1016/j.ophtha.2017.02.004 PMID: 28318640
- Liming Tan, Lu Chen, Mingyan Long, et al. Spatial distribution and influencing factors analysis of hypertension among middle-aged and elderly people. Chinese Journal of Preventive Medicine. 2019; 31(03): 236–241. https://doi.org/10.19485/j.cnki.issn2096-5087.2019.03.005
- Jing Li, Jing Tan, Weiwei Zhu, et al. Clinical diagnosis and treatment consensus of abnormal blood pressure fluctuations in elderly people in China. Chinese Journal of Hypertension. 2017; 25(02): 132–140. https://doi.org/10.3969/j.issn.1007-5410.2017.01.001
- 32. Di Zhang, Yao He, Jing Zeng, et al. Meta-analysis of risk factors for falls-related diseases among elderly people in China. Chinese Journal of Health Care and Medicine. 2017; 19(04): 329–333. https://doi.org/ 10.3969/.issn.1674-3245.2017.04.016
- Weiner D K, Hanlon J T, Studenski S A. Effects of central nervous system polypharmacy on falls liability in community-dwelling elderly. Gerontology. 1998; 44(4): 217–221. <u>https://doi.org/10.1159/000022013</u> PMID: 9657082
- Barker W. Assessment and prevention of falls in older people. Nursing older people. 2014. 26(6). https://doi.org/10.7748/nop.26.6.18.e586 PMID: 24975078
- **35.** Panel On Prevention Of Falls In Older Persons A G S A. Summary of the updated American Geriatrics Society/British Geriatrics Society clinical practice guideline for prevention of falls in older persons. Journal of the American Geriatrics Society. 2011; 59(1): 148–157. https://doi.org/10.1111/j.1532-5415. 2010.03234.x PMID: 21226685
- Hewston P, Deshpande N. Fear of falling and balance confidence in older adults with type 2 diabetes mellitus: a scoping review. Canadian journal of diabetes. 2018; 42(6): 664–670. https://doi.org/10.1016/ j.jcjd.2018.02.009 PMID: 29914779
- Cao WZ, Huang YY, Xi SX. Meta-analysis of risk factors for falls in elderly Chinese people. Nursing Research. 2018; 32(20): 3222–3228. https://doi.org/10.12102/j.issn.1009-6493.2018.20.016
- Sun XY, He ZQ, Wang LQ, et al. Association between mild cognitive impairment and risk of falls in community-dwelling population aged 55 years and above. Chinese Journal of Disease Control and Prevention. 2020; 24(02): 200–203. https://doi.org/10.16462/j.cnki.zhjbkz.2020.02.015
- Pandey M K, Karelia D, Amin S G. Gambogic acid and its role in chronic diseases. Anti-inflammatory Nutraceuticals and Chronic Diseases. 2016:375–395. <u>https://doi.org/10.1007/978-3-319-41334-1_15</u> PMID: 27671824
- 40. Gell N M, Wallace R B, Lacroix A Z, et al. Mobility device use in older adults and incidence of falls and worry about falling: Findings from the 2011–2012 national health and aging trends study. Journal of the American Geriatrics Society. 2015; 63(5): 853–859. https://doi.org/10.1111/jgs.13393 PMID: 25953070
- Wang CH, Huang Y, Zang XL, et al. Application of intervention mapping in improving self-management abilities for fall prevention in elderly patients. International Journal of Nursing. 2016; 35(11): 1452– 1455. https://doi.org/10.3760/cma.j.issn.1673-4351.2016.11.004