Table 1.

Characteristics of Included Studies for Review

Reference	Aims	Study design	Sample (%M)	Comparator	Cannabinoid assessed	Dosage, regimen, and route of administration	Psychometric instruments used		Findings	RoB score
							PTSD	Cannabis use		
Allan et al, 2019[35]	To assess the interactive effects of PTSD symptoms and past 30-day cannabis use on PTSD symptoms in military personnel	Longitudinal without a control group	N = 545 (88.2%)	NA	Cannabis[a]	NA	PCL-M	—	Interaction between PTSD symptoms and cannabis use significantly predicted increased PTSD symptoms	5
Bonn-Miller et al, 2013[40]	To understand the association between a current CUD diagnosis and changes in PTSD symptoms after cessation in combat-exposed military veteran patients	Longitudinal with a control group	N = 260 (100%)	Combat-exposed military veteran patients with PTSD without a CUD diagnosis	Cannabis[a]	NA	PCL-M	SCID-IV	A CUD diagnosis is associated with significantly lower levels of change in PTSD symptom severity compared to those without a CUD diagnosis between treatment intake and discharge ($\beta = -0.15$, $P < .05$)	5
Bonn-Miller et al, 2021[39]	To determine the effects of various concentrations of smoked cannabis in military veterans with PTSD	Double-blind randomized, crossover control trial	N = 80 (90%); n = 76 in stage 1; n = 74 re-randomized in stage 2	Various treatment groups	Cannabis[a]	Smoked (high THC [12% THC and < 0.05% CBD]; high CBD [11% CBD and 0.50% THC]; THC+CBD [≈7.9% THC and 8.1% CBD]); placebo (< 0.03% THC and < 0.01% CBD) (ad libitum use up to 1.8 g/d)	CAPS-5	—	All groups (including placebo) saw a significant within-subject reduction in total CAPS-5 severity scores from baseline to stage 1 endpoint; however, no significant group differences were found ($F_{3,73} = 1.85$, $P = .15$). Significant between-group differences in total severity scores were found in stage 2 ($F_{2,64} = 6.92$, $P < .01$) between participants in the high THC and THC+CBD group and between those in the high CBD and THC+CBD groups	Low
Bonn-Miller et al, 2022[30]	To assess PTSD symptoms and functioning in cannabis users vs non–cannabis users with PTSD over 1 year	Longitudinal with a control group	N = 150 (73%)	Individuals with PTSD who do not use cannabis	Cannabis[a]	NA	CAPS-5	—	Decrease in symptom severity overtime in cannabis users compared to controls ($P = .02$); cannabis users were 2.57 times more likely to no longer meet criteria for PTSD at the end of the study observation period, compared to controls ($P = .03$)	8
Cameron et al, 2014[31]	To assess the efficacy of nabilone for PTSD-related insomnia and nightmares in adult male offenders	Retrospective chart review	N = 104 (100%)	NA	Nabilone	Oral (varying, mean initial dose of 1.4 mg daily and mean final dose of 4.0 mg)	PCL-C	SCID; ASI	PCL-C scores decreased significantly from pre- to post-treatment (pre-treatment: mean, 54.7 [SD, 13.0]; post-treatment: mean, 38.8 [SD, 7.1]; $t_{57} = 10.2$, $P = .001$)	Serious

(continued)

Table 1 (continued).

Reference	Aims	Study design	Sample (%M)	Comparator	Cannabinoid assessed	Dosage, regimen, and route of administration	Psychometric instruments used: PTSD	Psychometric instruments used: Cannabis use	Findings	RoB score
Elms et al, 2019[32]	To assess the effects of CBD on PTSD symptom severity	Retrospective case series	N = 11 (27%)	NA	CBD	Oral (open-label, flexible dosing regimen, taken once or twice a day depending on symptom severity, mean initial dose of 33.18 mg, mean week 8 dose of 48.64 mg)	PCL-5	—	After 4 weeks, 91% of patients reported a decrease in PTSD symptoms; after 8 weeks, 73% of patients reported a further decrease in PTSD symptoms and 27% of patients reported worsening PTSD symptoms	70%
Greer et al, 2014[33]	To understand the association between cannabis use and PTSD symptoms overtime in patients who applied to the New Mexico Medical Cannabis Program	Retrospective chart review	N = 80 (NA)	Individuals with PTSD who do not use cannabis	Cannabis[a]	NA	CAPS for *DSM-IV*	—	Significant reduction of total CAPS-IV scores ($F_{1,79}$ = 1,119.55, P < .0001) during the cannabis condition (22.5 ± 16.9) compared to the no-cannabis condition (98.8 ± 17.6)	Serious
Jetly et al, 2015[43]	To determine the efficacy of nabilone in reducing frequency, intensity of nightmares in military personnel with PTSD	Double-blind randomized, crossover, control trial	N = 10 (100%)	Matching placebo, waitlist control	Nabilone	Oral (initial dose 0.5 mg; titrated up to 3 mg, taken once per day)	CAPS for *DSM-IV*	—	Nabilone associated with significant mean reduction in nightmares; nabilone: −3.6 ± 2.4; placebo: −1.0 ± 2.1 (P = .03)	Some concerns
Johnson et al, 2016[37]	To understand the association between cannabis use and PTSD symptoms in veterans	Longitudinal with a matched control group	N = 700 (91%)	Individuals with presumptive PTSD who do not use cannabis	Cannabis[a]	NA	PCL-C	ASSIST	No significant differences in mean PCL-C scores between cases and controls	5
Livingston et al, 2022[41]	To explore the long-term PTSD outcomes in veterans following a CUD diagnosis	Longitudinal with a control group	N = 115 (60.9%)	Veterans with PTSD without a prior CUD diagnosis	Cannabis[a]	NA	PCL-C, PCL-5	*ICD-9*	Individuals with CUD exhibited higher symptom severity at baseline and overtime, as well as a lower rate of symptom improvement over time	7
Manhapra et al, 2015[42]	Treatment outcomes for veterans with CUD and PTSD	Longitudinal with a control group	N = 623 (95.8%)	Abstinent vs non-abstinent veterans with marijuana use	Cannabis[a]	NA	MISS-SF	—	The cannabis abstinent group showed significantly greater improvements in changes of PTSD score	4
Pillai et al, 2022[34]	To assess the relationship between cannabis-based medicinal products and improvements in PTSD	Longitudinal case series without a control group	N = 162 (59.8%)	NA	Cannabis[a]	NA	IES-R	Previous cannabis status; gram years	Significant improvements in PTSD symptoms from baseline to 1-, 3-, and 6-month follow-up	70%
Roitman et al, 2014[38]	To determine the tolerance and safety of oral THC administration in individuals with PTSD	Longitudinal without a control group	N = 10 (70%)	NA	THC extract	10 mg (5 mg twice a day)	CAPS for *DSM-IV*	—	Decrease in average CAPS scores from start to end of treatment; however, results were not statistically significant	Serious
Wilkinson et al, 2015[36]	To understand the association between marijuana use and PTSD symptom severity	Retrospective cohort	N = 2,276 (96.7%)	Individuals that have stopped using, continued using, started using, and are not using cannabis	Cannabis[a]	NA	MISS-SF	—	Cannabis use was positively associated with worse outcomes in PTSD symptom severity (P < .01) compared to cannabis-stoppers and non-users	4

[a]Exact cannabinoid is unknown and could, for example, be a mix of THC and CBD; however, this was not clearly stated by the authors.

Abbreviations: ASI = Addiction Severity Index, ASSIST = Alcohol, Smoking, and Substance Involvement Screening Test, CAPS for *DSM-IV* = Clinician-Administered PTSD Scale for *DSM-IV,* CAPS-5 = Clinician-Administered PTSD Scale for *DSM-5*, CBD = cannabidiol, CUD = cannabis use disorder, *ICD-9* = *International Classification of Diseases,* Ninth Revision, IES-R = Impact of Events Scale-Revised, M = male, MISS-SF = Mississippi Scale for Combat-Related PTSD-Short Form, NA = not available, PCL-5 = PTSD Checklist for *DSM-5*, PCL-C = PTSD Checklist—Civilian Version, PCL-M = PTSD Checklist—Military Version, PTSD = posttraumatic stress disorder, RoB = risk of bias, SCID = Structured Clinical Interview for *DSM* Disorders, THC = Δ^9-tetrahydrocannabinol.