



# Bridging the Gap for Type 2 Diabetes Management and Peer Support Interventions for Mental Health Comorbidities in Adult Patients: A Systematic Review

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## KEY TAKEAWAY POINTS

- Peer-support intervention is effective in improving depression and/or diabetes distress in those living with type 2 diabetes (T2D).
- Peer-supporters are not limited to nurses who are knowledgeable in diabetes self management education (DSME). Peer-supporters can range from community health care workers, family members, coaches, and community members.

## BACKGROUND

- Both depression and diabetes distress can negatively impact self-management behaviors among adult patients living with T2D.
- Incorporating peer-support interventions into T2D management can help improve those who are comorbid with depression and diabetes distress.

## RESEARCH OBJECTIVE

- The primary objective of this systematic review was to report evidence and gaps in the literature for the impact of peer support interventions on two mental health comorbidities– depression and diabetes distress in adults living with T2D.
- To report impact of peer support on additional health outcomes such as hemoglobin A1c (HbA1c), body mass index (BMI), blood pressure, and cholesterol levels)

## METHODS

- The inclusion criteria include peer support interventions for depression and/or diabetes distress for adults living with T2D.
- Randomized controlled trials (RCT) published from January 2000 to December 2021 were assessed on databases including Academic Search Complete, APA Psych, CINAHL, Cochrane Library, MEDLINE, PubMed, and PsychINFO.
- Target outcomes include changes in mental health outcomes (i.e., presence of depression and diabetes distress).
- Clinical outcomes (i.e., reported hemoglobin A1c (HbA1c), body mass index (BMI), blood pressure, and cholesterol levels).
- The formats for peer support or peer-based interventions include online, group, telephone-based, and in-person.

## REFERENCES & RESOURCES

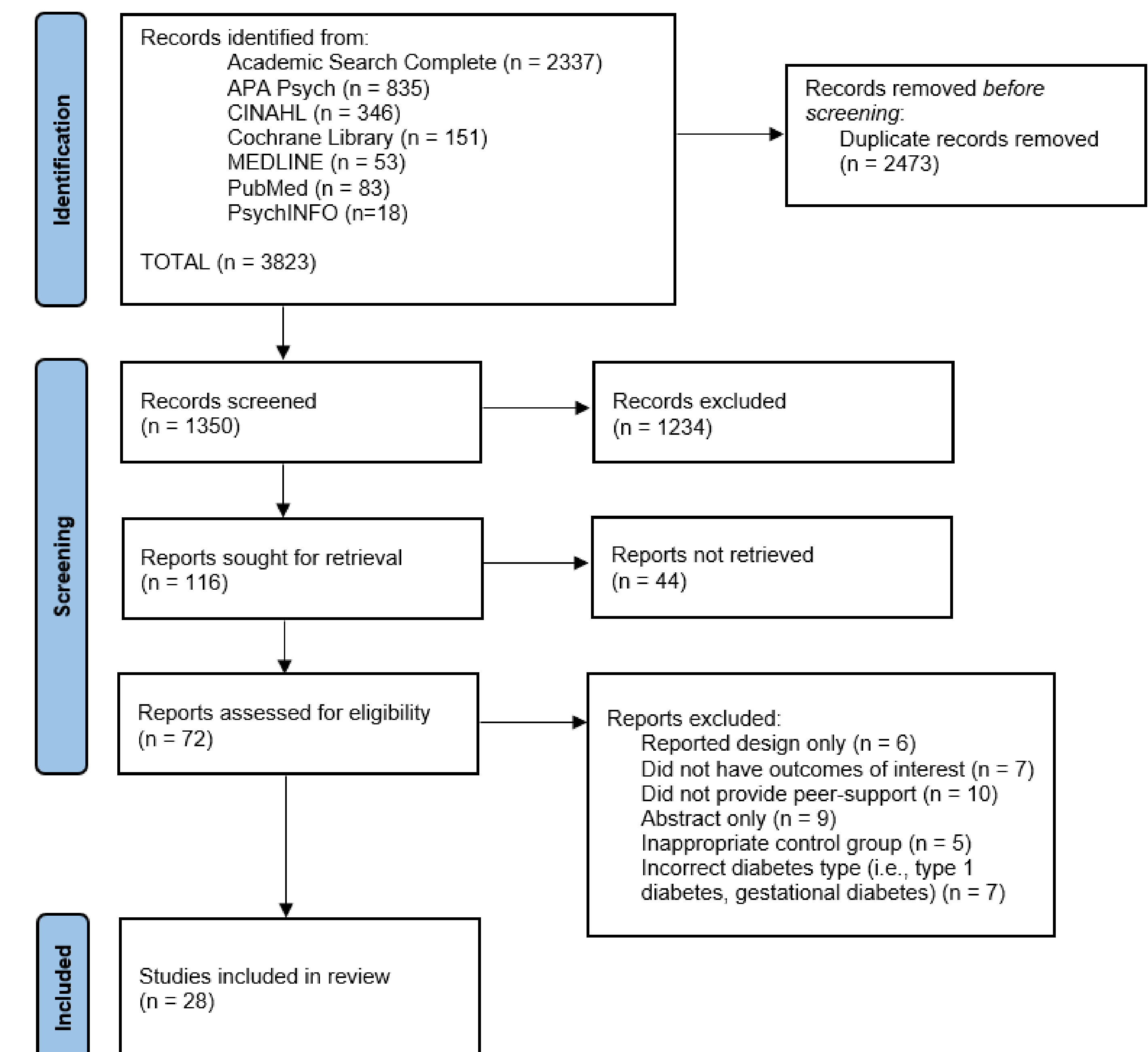


## RESULTS

Source, Year, Country	Mental Health Comorbidities	Intervention	Findings
Azami et al., 2018, Iran <sup>1</sup>	Depression	I: usual care + 12 weeks of nurse-led DSME <sup>a</sup> and group session; C: usual care	Not significant
Chan et al., 2014, China <sup>2</sup>	Both	I: JADE <sup>b</sup> + PEARL <sup>c</sup> program from diabetes care team and peer supporters; C: JADE program from peer supporters only	Depression: not significant
			Diabetes Distress: not significant
Cummings et al., 2019, USA <sup>3</sup>	Both	I: cognitive behavioral therapy + lifestyle counseling via telephonic interventions; C: usual care	Depression: significant
			Diabetes Distress: significant
Dale et al., 2009, United Kingdom <sup>4</sup>	Diabetes Distress	I: 1 <sup>st</sup> arm was telecare support by peer supporters. 2 <sup>nd</sup> line was telecare support by diabetes specialist nurses; C: usual care	Not significant
Heisler et al., 2010, USA <sup>5</sup>	Diabetes Distress	I: peer intervention via telephone calls; C: nurse care management intervention	Not significant
Ju et al., 2018, China <sup>6</sup>	Diabetes Distress	I: peer to peer communication along with diabetes education; C: usual care education	Significant
Khodneva et al., 2016, USA <sup>7</sup>	Depression	I: peer coaching on self-management and diabetes care provider visits. Groups are split depending on PHQ score; C: usual care	Significant
Liu et al., 2015, China <sup>8</sup>	Both	I: received peer education support; C: usual care	Depression: significant
			Diabetes Distress: significant
Long et al., 2020, USA <sup>9</sup>	Both	I: received assistance from matched mentor; C: usual care	Depression: not significant
			Diabetes Distress: not significant
			Significant
Lorig et al., 2008, USA <sup>10</sup>	Diabetes Distress	I: received peer-led self-management program and then automated telephone messages; C: usual care	Significant
Lorig et al., 2009, USA <sup>11</sup>	Depression	I: received peer-led DSM <sup>12</sup> ; C: usual care, after 6 months of data collection, controls were offered DSMP	Significant
Lorig et al., 2010, USA <sup>12</sup>	Depression	I: phase 1: online T2D self-management program, phase 2: online T2D self-management program with email reinforcement; C: usual care	Not significant
Markle-Reid et al., 2018, Canada <sup>13</sup>	Depression	I: client driven self-management program delivered by peer volunteers; C: usual care	Not significant
McKay et al., 2001, USA <sup>14</sup>	Depression	I: received internet self-management intervention with website's personal coach and peer-to-peer support; C: internet information-only conditions, diabetes-specific articles	Not significant
McKay et al., 2002, USA <sup>15</sup>	Depression	I: 1 <sup>st</sup> arm: PSC <sup>6</sup> , 2 <sup>nd</sup> arm: PSMCC <sup>7</sup> , 3 <sup>rd</sup> arm: combined combination of all conditions; C: information-only condition	Not significant
Onyechi et al., 2016, Nigeria <sup>16</sup>	Depression	I: CBC <sup>8</sup> program; C: usual care	Significant
Presley et al., 2020, USA <sup>17</sup>	Both	I: DSME <sup>a</sup> + mobile health-enhanced peer support intervention; C: usual care	Depression: not significant
			Diabetes Distress: significant
Rahimi et al., 2019, Iran <sup>18</sup>	Depression	I: peer support group sessions; C: training facilitated by nurse	Significant
Siminerio et al., 2013, USA <sup>19</sup>	Diabetes Distress	I: DSME <sup>a</sup> from educator, peer, practice staff; C: usual care	Significant
Simmons et al., 2015, United Kingdom <sup>20</sup>	Both	I: 1 <sup>st</sup> arm: group intervention, 2 <sup>nd</sup> arm: 1:1 ratio intervention, 3 <sup>rd</sup> arm: combined intervention; C: controlled intervention	Depression: not significant
			Diabetes Distress: not significant
Spencer et al., 2018, USA <sup>21</sup>	Both	I: 1 <sup>st</sup> arm: CHW <sup>h</sup> + peer leaders, 2 <sup>nd</sup> arm: CHW <sup>h</sup> -only; C: usual care	Depression: significant
			Diabetes Distress: not significant
Tang et al., 2014, USA <sup>22</sup>	Diabetes Distress	I: peer-led DSME <sup>a</sup> ; C: CHW <sup>h</sup> -led DSME <sup>a</sup>	Not significant
Tang et al., 2015, USA <sup>23</sup>	Both	I: peer-led DSME <sup>a</sup> ; C: DSME <sup>a</sup> program alone	Depression: not significant
			Diabetes Distress: not significant
Trief et al., 2016, USA <sup>24</sup>	Both	I: 1 <sup>st</sup> arm: CC <sup>i</sup> , 2 <sup>nd</sup> arm: IC <sup>i</sup> ; C: usual care	Depression: not significant
			Diabetes Distress: significant
Trief et al., 2019, USA <sup>25</sup>	Both	I: 1 <sup>st</sup> arm: CC <sup>i</sup> , 2 <sup>nd</sup> arm: IC <sup>i</sup> ; C: usual care	Depression: not significant
			Diabetes Distress: significant
van der Wulp et al., 2012, Netherlands <sup>26</sup>	Both	I: received peer-led intervention by experienced expert; C: usual care	Depression: not significant
			Diabetes Distress: significant
Wang et al., 2014, USA <sup>27</sup>	Depression	I: Latinos en Control intervention; C: usual care	Not significant
Xu et al., 2021, China <sup>28</sup>	Depression	I: group cognitive behavioral therapy; C: usual care	Significant

<sup>a</sup> Diabetes Self Management Education; <sup>b</sup> Joint Asia Diabetes Evaluation; <sup>c</sup> Peer Support, Empowerment, and Remote Communication; <sup>d</sup> Diabetes self-management program; <sup>e</sup> Peer-support condition; <sup>f</sup> Personal self-management coach condition; <sup>g</sup> Cognitive behavioral coaching; <sup>h</sup> Community health worker; <sup>i</sup> Couples intervention calls

## PRISMA FLOW DIAGRAM



## RESULTS SUMMARY

A total of 28 articles was retained in this systematic review.

- Upon completing peer-support interventions and follow-up:
  - 9 of the 21 articles that focused on depression showed improvement in depressive symptoms.
  - 6 of the 18 articles that focused on diabetes distress showed improvements.
  - 7 of the 22 studies that measured HbA1c showed reduction.
  - 3 of 13 studies that measured blood pressure showed reduction
  - 2 of 10 studies that measured BMI showed reduction.
  - 2 of 10 studies showed elevation in HDL and LDL reduction, respectively.

## CONCLUSION

Based on the retained articles, studies have shown that peer-support interventions for those living with T2D is more beneficial in improving depression compared to diabetes distress. Peer-supporters are not limited to nurses who are knowledgeable in DSME. Peer supporters such as trained coaches, family members, and community health workers can make a difference in an individual's mental health and diabetes management. Other options such as telephone sessions, online programs, and email can also be used to improve diabetes management and mental health.