REVIEW

A Scoping Review of Suicide Prevention Training Programs for Pharmacists and Student Pharmacists

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Objective. This scoping review updates a 2018 review of suicide prevention training programs for community and student pharmacists. Five scholarly databases were searched for articles published between January 2018 and December 2020. Articles were excluded if they did not describe an educational or training program for pharmacists or student pharmacists, did not explicitly include suicide, focused solely on attitudes, or did not provide sufficient detail to evaluate program content. The quality of each study was examined using a quality assessment tool.

Findings. Seven studies met inclusion criteria. Most trainings (86%) were delivered live with interactive or role play scenarios to promote verbal and behavioral skill practice. About half (57%) assessed changes in knowledge, and fewer programs (29%) assessed changes in communication. All assessed participants’ ability to identify suicide warning signs and included referral resources. Six studies were assessed for quality, of which 67% had a rating of good and 33% were rated as fair.

Summary. Given the increase in suicide rates nationally, it is likely that pharmacists will encounter a patient in need of suicide prevention services. Since 2018, seven new suicide prevention training programs for community and student pharmacists have been reported, which demonstrates growing interest in suicide prevention training in the pharmacy profession. When integrated in Doctor of Pharmacy (PharmD) curricula, trainings may help prepare the pharmacy workforce for encounters with patients in crisis. The impact of training on self-efficacy and communication skills warrants additional attention. Variation between programs should be evaluated to understand which instructional methods best prepare pharmacy professionals to engage in suicide prevention.

Keywords: suicide prevention, training, education, student pharmacist, community pharmacy

INTRODUCTION

Suicide rates have increased by 35% in the most recent decade, with a rate of 14.2 per 100,000 people in 2018. That same year, approximately 10.7 million adults aged 18 or older reported serious thoughts of suicide; of those, 3.3 million made a suicide plan and 1.4 million made a nonfatal suicide attempt. Despite over a decade of national goals and programs aimed at lowering suicide rates, several recent reports have documented that suicide rates continue to increase. In part, this may be due to limited large-scale implementation of multifaceted public health approaches to suicide prevention. One such approach, namely gatekeeper training, has proven to be effective for rapid training and deployment of lay people in K-12 education and military settings. Such programs teach community members to identify suicide warning signs and intervene with at-risk individuals when signs are recognized.

Although promising, gatekeeper training programs have not been systematically integrated into pharmacy education. The United States has more than 68,000 community pharmacies, many of which are open 24 hours per day. This allows for pharmacists to be a frequent health care touchpoint for many community members. As such, pharmacists are well positioned as gatekeepers for suicide prevention. Most importantly, community pharmacy staff have reported encountering patients either in crisis or who died by suicide and have expressed their need for training in suicide prevention skills.

Yet, despite the accessibility of pharmacy staff, barriers to gatekeeping remain. Common barriers include...
lack of time, privacy, discomfort in discussing mental illness, and a more limited view of the scope of community pharmacy practice that precludes suicide prevention. Despite these barriers, a study of 501 community pharmacy staff in North Carolina found that 21.6% had been asked about lethal medication doses by patients or encountered patients who requested a lethal dose of medication. Furthermore, 71.2% and 34.2% of student pharmacists reported that they had experienced hearing concerning statements in their personal lives or while at work, respectively. In recent years, the number of training programs related to suicide prevention have also increased.

The objective of this review is to update a 2018 review which addressed gatekeeper suicide prevention training programs for pharmacists and pharmacy students. As documentation of the pharmacy workforce’s exposure to individuals in crisis continues to grow and the pharmacy profession’s role in suicide prevention and mental health has expanded over the past few years, a concomitant increase in suicide training resources for pharmacy professionals would be expected. This information may support community-based pharmacy practices by identifying available suicide prevention strategies and identifying gaps in training that can be addressed by future trainings.

METHODS

Using five databases (PubMed, International Pharmaceutical Abstracts, PsycINFO, Scopus, and Google Scholar), we replicated the search strategy from the 2018 review. Databases were searched for the terms pharmacist AND (suicide OR suicidal) NOT (euthanasia OR assisted suicide OR physician assisted) to identify suicide prevention programs. To identify student pharmacist–focused programs, databases were searched for the following terms pharmacy student AND (suicide OR suicidal) NOT (euthanasia OR assisted suicide OR physician assisted). Inclusion criteria included publication dates between January 2018 and December 2020.

The selection process was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Figure 1). Duplicate articles were removed, then the remaining titles and abstracts (n=176) were screened for relevance. Articles were excluded if they were published in a language other than English, if the abstract defined a research population other than community pharmacists or student pharmacists, or if they broadly discussed community or educational interventions without specifically identifying pharmacy professionals (n=52). Of the remaining articles (n=48), 41 were

Figure 1. PRISMA flow diagram for inclusion of studies in scoping review of suicide prevention training programs for pharmacists and student pharmacists.

PRISMA flow diagram showing inclusion and exclusion of studies in the scoping review. This diagram depicts identification of studies, exclusion parameters at screening, and full text articles extract for final review.

Abbreviations: PRISMA=Preferred Reporting Items for Systemic Reviews and Meta-Analyses.
excluded because they focused solely on depression or mental health screening, focused solely on attitudes toward suicide or mental health, and/or did not provide sufficient detail about the training program to evaluate whether inclusion criteria were met.

Since some suicide prevention resources for pharmacists may have been developed but not published in the academic literature, we followed the same search strategy as the 2018 review and conducted a Google Scholar search (November 2020) with the following keyword groups: suicide, training program, and pharmacist (group 1) and suicide, training program, and student pharmacist (group 2). The results were limited to the first 100 articles, and no new results were identified since the previous review.

During the full-text review of the resources that met inclusion criteria, the following data were extracted: name of the training program, format of the training program (eg, in person, online), length of training, target of training (eg, student pharmacists, pharmacists), learning methods (eg, didactic presentation, role play), and outcomes assessed (eg, confidence, knowledge). The topics covered were further coded into the following categories: background information, warning signs of suicide, communication with patients, referral resources, medication counseling for suicide prevention, and role play/interactive component.

The quality of each study was examined using the National Heart, Lung, and Blood Institute (NHLBI) quality assessment tool. This tool was chosen because it evaluates quality based on study design. The tool employs separate checklists tailored for observational cohort and cross-sectional studies, case-control studies, and pre-post studies. The only study type that cannot be evaluated with this tool is qualitative studies. All checklists are designed to address internal validity (ie, risk of bias) in an equivalent manner. Each checklist item is rated as “yes,” “no,” “not applicable (NA),” “cannot determine (CD),” or “not reported (NR).” These items form an overall quality rating for each study as “good,” “fair,” or “poor.”

RESULTS

The search strategy resulted in 176 nonduplicate articles. After applying the inclusion and exclusion criteria, a total of seven articles were included in the final scoping review (Figure 1). All seven articles described live, in-person training programs for pharmacists or student pharmacists (Appendix 1). Five training programs were for student pharmacists, all of which reported program length, with training time ranging from 50 minutes to 3.5 hours. Time was not reported for the remaining two programs delivered in community pharmacy settings (Appendix 1).

Of the five programs implemented in pharmacy school curricula, three were in US Doctor of Pharmacy (PharmD) curricula (60%), and two were in Bachelor of Pharmacy curricula in Australia (40%). Further, two of the five programs were embedded in Mental Health First Aid (MHFA) training programs (40%), but the content and assessments were different. In one of the MHFA studies, all students completed MHFA training and then a subset of 36 students were randomized to either receive a depression vignette or a suicide vignette. After training, students completed an eight-item self-evaluation on how confidently they could handle a mental health crisis or ask about suicide, depending on their assigned vignette. In the other study, by El-Den and colleagues, MHFA was embedded into the school of pharmacy curriculum and students were randomly assigned to one of three suicide crisis scenarios, each with an in-person simulated patient who had lived experience of mental illness. Analysis of qualitative interview data identified five themes: benefits to students and simulated patients, value of lived experience, challenges of suicide assessment, confidence in communication, and value in immediate debriefing. Overall, this study found that simulated patient involvement provided a means to practice skills more authentically, mimicking a realistic environment safely, and benefited skill development for students.

The other two training programs included in the analysis were implemented among community pharmacy staff together with lay people. Of these, one program trained community pharmacists, pharmacy assistants, and members of four local farming communities in Queensland, Australia. The other targeted lay people as well as pharmacists, general practitioners, and patients, including survivors of suicide attempt in Germany, Hungary, Portugal, and Ireland (Appendix 1). One of these two community programs also used MHFA training. The aims of this training were to explore the potential changes in knowledge, skills, and attitudes of participants. Additionally, this study examined the effect of MHFA training on community members’ understanding of the role of pharmacists in supporting individuals with mental illness.

Five topics were taught across all seven training programs: warning signs of suicide, how to communicate with patients who exhibit warning signs, medication counseling and suicide, and referral resources (Table 1). Additionally, six programs (86%) incorporated an interactive training component (eg, role play) to promote verbal or behavioral skills development. Of the six, four included live, in-person role play activities (67%). The most common skill practiced in three of the four role play activities was to ask the patient specifically about suicide (75%). Other skills included identifying warning signs or assessing for crisis.
One study focused mainly on medication management and how to handle a medication-related ethical dilemma in the context of suicide risk.31 Two of the six studies provided written case scenarios in which participants gave written feedback based on a hypothetical patient with suicidal warning signs (33%).28,32

All five trainings for student pharmacists contained a role play or interactive component. Three (60%) contained background information and statistics on suicide,27-29 two addressed medication counseling (40%), one addressed risk of medication use in a suicide attempt,28 and the other provided a scenario of a medication-related ethical dilemma and review of medication history.31 The second incorporated additional reference materials such as a suicide prevention information card and counseling on antidepressant medications through a course management website.29 One student-focused program took the additional steps of including resources for participants to seek counseling after discussing emotionally intense topics and giving a list of available resources for personal use for emotional recovery.27 Although both community training programs addressed background information and statistics about suicide and referral resources for individuals at risk of suicide, neither addressed medication counseling. One program addressed how to communicate about and ask about suicide and included an interactive case scenario with brief hypothetical response options.32

Of the seven programs, three conducted pre- and post-training assessments (43%). The most common outcomes measured included changes in knowledge (57%) and perceived relevancy of training to pharmacy/pharmacy staff (57%). Fewer than half of all programs reported changes in participants’ confidence in interacting with suicidal patients (43%) or changes in their ability to recognize warning signs or to intervene to prevent suicide (43%). Changes in communication skills (ie, asking about suicide or communicating about the topic of suicide) were assessed by 29% of trainings. Other outcomes included awareness of suicide in the broader community (14%) and benefits of participating in mental health or suicide gatekeeper training programs (14%).

Six of seven studies (86%) used quantitative methods that could be evaluated for quality using the NHLBI quality assessment tool. The seventh study employed a qualitative design.33 Of the quantitative studies, four (67%) had an overall rating of “good,” and two (33%) were rated as “fair.” Studies rated as “fair” provided minimal details about study methods. All six rated studies relied on self-report measures.
making reporting bias the biggest research limitation. In one study, the sample size was justified using statistical methods, while the rest of the studies relied on convenience sampling \(^3\) (Table 2). Sample size could have impacted the size of the effect seen from pre- to post training for the three studies that used pre-post designs.

**DISCUSSION**

Given the scope of suicide as a public health problem and the diversity of pharmacy programs and resources, there is a need to evaluate a variety of approaches for educating students and engaging community pharmacists in suicide prevention. \(^26\) In the original review published in 2018, a total of 16 training programs were identified, four or which targeted student pharmacists. Since the previous review, five suicide prevention training interventions targeting student pharmacists and two training programs delivered to the community, including some pharmacists, were published by 2020. All five trainings for student pharmacists were uniquely different from general population gatekeeper programs in their inclusion of an interactive training component, although a minority included medication counseling.

In the aforementioned 2018 review, \(^25\) the authors recommended that suicide prevention training for pharmacy professionals address the following areas: identifying warning signs for suicide, communicating with individuals to assess risk of suicide, referring individuals to appropriate resources, and counseling about which medications may increase risk of suicidal ideation. However, only two of the five trainings for student pharmacists included information on medication counseling \(^28,31\) and the role of medication in suicidal ideation and behavior. Notably, trainings lacked medication-specific information, such as mentioning the medications labeled for increasing patients’ risk of suicidal ideation or behavior, even though more than 143 agents carry this label. This information should be included in future trainings. \(^14\)

Six of the seven programs included an interactive training component. This gave trainees an opportunity to practice their learned skills and receive feedback. The opportunity to practice and receive feedback may be especially important for pharmacy professionals whose training in gatekeeping may be limited to one training and who may have to use gatekeeping skills in practice-based pharmacy. Interactive cases like those used in some trainings have been shown to be effective at supporting student pharmacists in building empathy \(^34\) and developing counseling skills. \(^35\) Furthermore, simulation-based exercises, such as the role plays and standardized patient scenarios used in some trainings, can improve student pharmacists’ communication skills \(^36\) and ability to effectively convey their knowledge. \(^37\)

Five of the seven trainings were rated to be of “good” quality; however, they could be improved by incorporating validated assessment measures and clearly defined objective outcomes that can be observed and rated by blinded coders. Additionally, most of the studies in this review used self-reported data that were gathered shortly after training, which could be impacted by social desirability bias. The two studies that were rated as “fair” were missing crucial design details. Future studies should report sufficient information about how suicide prevention is incorporated into programming, including time allotted to suicide prevention education, types of resources provided for patient referral, and structure of overall educational intervention (e.g., learning methods, topics covered) and assessments (e.g., rater qualifications, rubrics, grade and weighting for course credit, anonymity of student feedback, etc).

Five of the seven articles published since the previous review in 2018 described suicide prevention training with student pharmacists. In the 2018 review, only four programs were delivered to student pharmacists. This increase in student pharmacist-focused programs could, in part, be due to greater professional interest in both how pharmacists engage with patients with mental health disorders and integrating suicide prevention training into pharmacy school curricula to address suicide as a growing public health need. \(^26\) Educating students on suicide prevention incorporates the appropriate communication skills into pharmacy training before student pharmacists begin practice. By providing activities such as interactive role play with feedback or video scenarios, learners can model appropriate language for suicide prevention gatekeeping with an individual who is displaying suicide warning signs in the real world.

The increasing number of publications on suicide prevention training efforts in pharmacy schools in a matter of a few short years is encouraging, particularly given the considerable demands already placed on curricula and learners when curricular expansion is not accompanied by reductions in other content areas. Integration of extensive standalone suicide prevention units in pharmacy school curricula may be impractical; however, microtrainings (e.g., two to four 15-minute modules), may be sufficient to support gatekeeping, by which pharmacy students recognize patients presenting with warning signs, engage them in conversation, and expedite referrals. This gatekeeping training could be readily incorporated into required courses in population health/public health, communication, and pharmacotherapy units about disease states that carry an increased risk of suicide, such as serious mental illnesses, substance misuse, pain, or social determinants of health.
Table 2. Quality Assessment of Evaluations of Suicide Prevention Training Programs Studies

**Case-control studies**

<table>
<thead>
<tr>
<th>Author (pub year)</th>
<th>Study design</th>
<th>CL1 Clear objective</th>
<th>CL2 Defined sample</th>
<th>CL3 Justified sample</th>
<th>CL4 Recruit/timeframe</th>
<th>CL5 Defined criteria</th>
<th>CL6 Defined cases</th>
<th>CL7 Random selection</th>
<th>CL8 Con-current controls</th>
<th>CL9 Exposure</th>
<th>CL10 Exposure defined</th>
<th>CL11 Blinding</th>
<th>CL12 Founder</th>
<th>Quality rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hegrel (2019)</td>
<td>Case-control</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>NA</td>
<td>Y</td>
<td>Good</td>
<td></td>
</tr>
</tbody>
</table>

**Observational cohort and cross-sectional studies**

<table>
<thead>
<tr>
<th>Author (pub year)</th>
<th>Study design</th>
<th>CL1 Clear objective</th>
<th>CL2 Defined sample</th>
<th>CL3 Participation rate</th>
<th>CL4 Recruit/timeframe</th>
<th>CL5 Justified sample</th>
<th>CL6 Exposure</th>
<th>CL7 Time frame</th>
<th>CL8 Exposure levels</th>
<th>CL9 Defined exposure</th>
<th>CL10 Exposure time frame</th>
<th>CL11 Defined outcome</th>
<th>CL12 Blinding</th>
<th>Quality rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>El-Den (2018)</td>
<td>Cross-Sectional</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>NR</td>
<td>Good</td>
</tr>
<tr>
<td>Witry (2019)</td>
<td>Cross-Sectional</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>NR</td>
<td>Fair</td>
</tr>
</tbody>
</table>

**Before-after (pre-post) studies with no control group**

<table>
<thead>
<tr>
<th>Author (pub year)</th>
<th>Study design</th>
<th>CL1 Clear objective</th>
<th>CL2 Eligibility</th>
<th>CL3 Participants</th>
<th>CL4 Justified sample</th>
<th>CL5 Sample size</th>
<th>CL6 Consistent protocol</th>
<th>CL7 Outcome measures</th>
<th>CL8 Blinding</th>
<th>CL9 LTFU</th>
<th>CL10 Statistical methods</th>
<th>CL11 Multi Measure</th>
<th>CL12 Multi level analysis</th>
<th>Quality rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shams (2020)</td>
<td>Pre-Post</td>
<td>Y</td>
<td>Y</td>
<td>NR</td>
<td>Y</td>
<td>CD</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>NA</td>
<td>Fair</td>
</tr>
<tr>
<td>Wilson (2020)</td>
<td>Pre-Post</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>CD</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>NA</td>
<td>Good</td>
</tr>
<tr>
<td>Witry (2020)</td>
<td>Pre-Post</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>CD</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>NA</td>
<td>Good</td>
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Abbreviations: Y=yes, N=no, NR=not relevant.
Notably, pharmacists have been asked to support suicide prevention in settings accredited by the Joint Commission. Integrating suicide prevention into pharmacy settings, specifically via brief trainings to support gatekeeping, is likely to support not only our patients but also pharmacy students, whose own increasing use of mental health services raises the likelihood that they will encounter a classmate, friend, or patient in need of mental health services.

This review has limitations. One limitation is that all articles were reviewed and compiled by one researcher, which may introduce bias. This was addressed systematically by conducting a quality review using a validated tool to assess each article. To reduce the risk of overlap with the previously conducted scoping review, the current review only assessed literature published within the past three years. It is possible that additional programs have been implemented for community pharmacists and student pharmacists that have not been published or reported online. We attempted to capture programs that were not published in peer-reviewed literature by conducting a Google Scholar search. However, we still could have missed newly developed suicide prevention programs.

CONCLUSION

As pharmacists continue to interact with patients exhibiting warning signs, and as the Joint Commission and others have set standards for suicide prevention in a wide range of health care settings, demand for suicide prevention skills is likely to increase among student pharmacists and their employers. As the number and variety of trainings continues to expand, future studies should examine the effectiveness of these trainings on pharmacists’ communication, referral behavior, effectiveness, and patient satisfaction. While a growing body of literature is documenting the effects of suicide prevention training on pharmacists’ attitudes, perceptions, and confidence, little is known about pharmacists’ behavior and ability to engage in suicide prevention in practice. Future studies should investigate the optimal timing for suicide prevention training (ie, year in pharmacy school) and conduct follow-up assessments to address whether training has been used in practice. Additionally, variation between programs, including the frequency and type of content delivered, should be evaluated to better understand what learning methods best prepare pharmacy professionals to engage in suicide prevention gatekeeping behaviors. Further research is needed to define the long-term effects of the knowledge and skills acquired during suicide prevention training within the pharmacy profession.

REFERENCES


Appendix 1. Training Programs Identified for Inclusion in a Scoping Review of Suicide Prevention Training Programs for Pharmacists and Student Pharmacists

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Name of training program</th>
<th>Format</th>
<th>Length</th>
<th>Target</th>
<th>Learning methods</th>
<th>Outcomes assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>El-Den et al</td>
<td>2018</td>
<td>MHFA</td>
<td>In-person</td>
<td>NR</td>
<td>Student pharmacists</td>
<td>Two vignettes, one suicide-simulated patient role play (audio recorded), posttraining self-assessment based on the MHFA action plan.</td>
<td>Knowledge, Confidence, Skills identifying and preventing suicide</td>
</tr>
<tr>
<td>O’Reilly et al</td>
<td>2019</td>
<td>MHFA</td>
<td>In-person</td>
<td>NR</td>
<td>Student Pharmacists</td>
<td>MHFA using simulated role plays enacted by people with a lived experience of mental illness.</td>
<td>Thematic content analysis: Benefits of participating, Value of having lived experience, Challenges with suicide assessment, Communication, Value of immediate feedback and debrief</td>
</tr>
<tr>
<td>Wilson et al</td>
<td>2020</td>
<td>Suicide Prevention for Pharmacy Professionals</td>
<td>In-Person; video content; pre- and posttraining assessments</td>
<td>3.5 h</td>
<td>Student Pharmacists</td>
<td>Taught as a one-week module. Didactic portions were in a video-recorded format and included six 10-20-minute videos to be completed before laboratory sessions. A live 90-minute laboratory session was designed to practice incorporating Safer Home messaging and apply the LEARN framework to role play scenarios and group discussion.</td>
<td>Knowledge, Confidence, Skills in identifying suicide prevention (ie, look for warning signs of suicide) for patients, peers, family, and friends after training</td>
</tr>
<tr>
<td>Witry et al</td>
<td>2020</td>
<td>Evaluation of a Question Persuade Refer (QPR) training for student pharmacists</td>
<td>In-Person; pre-post session assessment</td>
<td>1 h</td>
<td>Student Pharmacists (second year)</td>
<td>Didactic slide presentation led by a psychiatric pharmacist and QPR training as part of a six-week neurology-psychiay integrated pharmacotherapy course. Information on suicide statistics, misconceptions, principles, and introduction to the SAVE program used by</td>
<td>Knowledge, Confidence, How to improve training</td>
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<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Name of training program</th>
<th>Format</th>
<th>Length</th>
<th>Target</th>
<th>Learning methods</th>
<th>Outcomes assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Witry et al</td>
<td>2019</td>
<td>Social Worker-Pharmacist Collaborative</td>
<td>In-Person</td>
<td>50 min</td>
<td>Student Pharmacists</td>
<td>Didactic session covering: suicide statistics and public health significance, protective factors, risk factors, and warning signs of suicidal ideation, strategies for asking about suicidal ideation, including practice asking about suicide, resources and referrals, brief case scenarios and student questions</td>
<td>Assessment of novelty of material, Relevancy of the topic to pharmacists, Confidence in students’ ability to ask about suicide, Confidence to question a patient about suicide</td>
</tr>
<tr>
<td>Hegrel et al</td>
<td>2019</td>
<td>Optimizing Suicide Prevention Programmes and Their Implementation in Europe (OSPI-Europe)</td>
<td>In-Person; Written Material; Infrastructure changes</td>
<td>Varied</td>
<td>General practitioners, “community facilitators and gatekeepers” (i.e. priests, policemen, pharmacists, patients, survivor relatives, families</td>
<td>Intervention study with four levels: training of primary care providers, a public awareness campaigns, training of community facilitators, support for patients and their relatives, public awareness events, flyers, posters, didactic learning courses, media delivered antisuicide campaigns</td>
<td>Number of suicide acts, Changes in frequency of suicidal acts at one year, Changes in attitudes, knowledge, and awareness of suicide and depression</td>
</tr>
<tr>
<td>Author</td>
<td>Year</td>
<td>Name of training program</td>
<td>Format</td>
<td>Length</td>
<td>Target</td>
<td>Learning methods</td>
<td>Outcomes assessed</td>
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</table>
| Shams et al | 2020 | MHFA (delivered within Community Farmacy-The Helping Hand Initiative)                     | In-Person; online surveys | NR     | Pharmacy staff (pharmacists and pharmacy technicians), consumers (members of local farming communities) | - Attended 12 hours of MHFA training  
- PowerPoint slide presentation and informational sheet (didactic)  
- Practiced application of skills  
- Provided pretraining and posttraining feedback | - Changes in knowledge, skills, and attitudes of pharmacy staff and community members  
- Community member understanding of the role of local community pharmacies in supporting people with mental illness  
- Changes in pharmacy staff practices when providing services and working with the broader community |

Abbreviations: MHFA=Mental Health First Aid; NR=not reported; QPR=Question, Persuade, Refer.

* The LEARN framework stands for Look for warning signs, Empathize and listen, Ask about suicide, Remove the danger, Next steps.

b The SAVE model stands for Signs of suicide, Ask about suicide, Validate feelings, Encourage help and expedite treatment.