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Psychological Interventions for Runaway and Homeless Youth

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Abstract

Purpose: In this review we examined previous studies of psychological interventions for runaway and homeless youth and evaluated the effectiveness of these interventions in terms of mental health outcomes.
Design: Literature review.
Methods: A search of various databases, including PubMed, EMBASE, Cochrane Library, PsycINFO, and the Cumulative Index to Nursing and Allied Health Literature (CINAHL), was conducted. In this review we systematically described the characteristics of the included studies and interventions, and conducted a narrative synthesis and meta-analyses of the mental health outcomes of the interventions.
Findings: Five types of psychological interventions were identified in the included 11 studies: art therapy, cognitive behavioral therapy (CBT)-based interventions, family therapy, motivational interviewing, and strengths-based interventions. The narrative synthesis found positive effects of family therapy on substance use and positive effects of CBT-based interventions on depression. However, according to the meta-analyses, none of the interventions had any significant effects.
Conclusions: Family therapies are likely to be effective in cases of substance use, and CBT-based interventions are likely to be effective in dealing with cases of depression. However, as the quantitative synthesis did not support the effects of any of the psychological interventions on mental health outcomes, further research is needed.
Clinical Relevance: Nurse-led interventions were identified in two studies. Mental health nurses should assess the mental health status of runaway and homeless youth and provide timely and effective interventions.

Runaways and homeless youth are a significant social concern worldwide (Thompson, Kim, McManus, Flynn, & Kim, 2007). Family conflict is the most common reason given by youths for running away from home (Fernandes-Alcantara, 2016), and many youngsters run away from home to escape abuse, neglect, family violence, and parental alcohol problems (Williams, Lindsey, Kurtz, & Jarvis, 2001).

As a result of traumatic experiences, runaway and homeless youth are likely to experience mental health issues (Petering, 2016). Previous research found a high prevalence of alcohol and drug abuse, conduct disorder, depression, and post-traumatic stress disorder in runaway and homeless youth (Whitbeck, Johnson, Hoyt, & Cauce, 2004). Kim et al. (2005) reported that runaway youth living in shelters had clinically high levels of hostility, interpersonal sensitivity, paranoid ideation, psychoticism, and somatization.

Previous literature reviews of interventions for runaway and homeless youth covered overall services and interventions rather than focusing on psychological interventions and mental health outcomes (Altena, Brilleslijper-Kater, & Wolf, 2010; Arnold & Rotheram-Borus, 2009; Slesnick, Dashora, Letcher, Erdem, & Serovich, 2009). Thus, the findings have limited value in terms of identifying psychological interventions to

improve the mental health of runaway and homeless youth and directions for future research in this area. The aim of this systematic review was to examine previous studies of psychological interventions directed toward runaway and homeless youth and to evaluate the effectiveness of these interventions in terms of mental health outcomes.

Design and Methods

Eligibility Criteria

The criteria for inclusion in this systematic literature review were as follows: (a) samples consisting of runaway and homeless youth 12–24 years of age; (b) psychological interventions were present; (c) control groups receiving usual or standard care, not receiving any interventions, or registered on waiting lists were present; (d) mental health outcomes were reported; and (e) randomized controlled trials (RCTs) and nonrandomized controlled trials (NRCTs). Due to a limited number of RCTs, this review included NRCTs, in addition to RCTs, to maximize the evidence of interventions for this hard-to-reach population.

As this review focused on psychological interventions, studies that evaluated HIV/AIDS prevention programs, shelter services, and vocational training were excluded. Studies that compared different interventions without a control group, one-group before-and-after studies, and secondary analysis studies were also excluded.

Search Strategy

A search of various databases, including PubMed, EMBASE, Cochrane Library, PsycINFO, and the Cumulative Index to Nursing and Allied Health Literature (CINAHL), was conducted, using combinations of the following medical subject headings (MeSH) and word terms: "homeless youth [MeSH Terms]," "homeless," "street," "runaway," "runaway behavior [MeSH Terms]," "shelter*," "youth*," "adolescent*," "intervention*," "program*," "treatment*," and "therap*." In addition, the bibliographies of previous reviews were manually searched to identify other potentially eligible studies. The search was limited to English language publications published between January 2000 and August 2016.

Study Selection and Data Extraction

After excluding duplicate titles, the initial screening of remaining articles was based on their titles and abstracts, after which full texts of the retained articles were assessed for eligibility. Data were extracted from the included trials and recorded on a standardized data extraction sheet. The following data were extracted: author, year, country, recruitment sources, study designs, sample sizes, characteristics of the participants, interventions, time points of assessments, mental health outcomes, and quantitative results of all relevant outcomes. As the outcomes of interest in this review were mental health problems, information on intervention outcomes such as family functioning and HIV risk behaviors was not extracted. Information on protective factors associated with mental health problems such as coping, psychological capital, resilience, self-efficacy, self-esteem, and social connectedness was also not extracted.

Assessment of Methodological Quality

The included RCTs were assessed using the Cochrane Collaboration's tool for assessing risk of bias (ROB; Higgins & Green, 2011). This tool includes seven domains: random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, selective reporting, and other sources of bias.

The included NRCTs were assessed using the risk of bias assessment tool for a nonrandomized study (RoBANS) developed by the Korean National Evidence-Based Healthcare Collaborating Agency (Kim et al., 2011). The RoBANS criteria contains six domains: selection of participants, confounding variables, measurement of the intervention (exposure), blinding of outcome assessment, incomplete outcome data, and selective outcome reporting. Each domain of the ROB and RoBANS tools was rated, and bias was categorized as low risk, high risk, or unclear risk.

Data Synthesis

In this review we systematically describe the characteristics of the included studies and interventions. In addition, we conducted a narrative synthesis of the outcomes of the included studies, and then the results of RCTs (not NRCTs) that reported the mean and *SD* of outcome variables in both experimental and control groups immediately after the interventions were synthesized quantitatively using meta-analyses. Efforts were made to contact authors where the original publication did not report the mean and *SD* of outcome variables after the intervention. If the authors did not respond, the studies that did not provide the data were excluded from the meta-analyses. In studies that performed intention-to-treat (ITT) analyses, the results of these

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analyses were used in the meta-analyses. The meta-analyses were performed using Review Manager (RevMan), version 5.3 (The Nordic Cochrane Centre, The Cochrane Collaboration, 2014, Copenhagen). In studies that used the same scale for the same continuous outcome, the mean differences (MDs) and their 95% confidence intervals (95% CIs) were calculated. When studies measured the same continuous outcome using different scales, the data were pooled using standardized mean differences (SMDs). To identify statistical heterogeneity, the I^2-statistic was used (Higgins & Green, 2011). Random-effects pooled estimates were used for data that exhibited substantial statistical heterogeneity ($I^2 > 50\%$). Otherwise, fixed-effects models were used when combining trials.

Results

Search Results

Figure S1 shows the search process in the form of a PRISMA flow diagram. The search of five databases and the reference list of prior reviews yielded 2,737 potentially relevant references, and 1,780 references remained after 957 duplicates were removed. On the basis of initial screening of the titles and abstracts, 79 studies were retained. Subsequently, 68 studies were excluded, as they did not fulfill the eligibility criteria following an examination of their full texts. As a result, a total of 11 studies were included in this review.

Methodological Quality of the Included Studies

Among seven RCTs assessed using the ROB appraisal tool, six of the trials adequately reported the method of random sequence generation and allocation concealment and were therefore judged as having a low risk for selection bias (Baer, Garrett, Beadnell, Wells, & Peterson, 2007; Milburn et al., 2012; Peterson, Baer, Wells, Ginzler, & Garrett, 2006; Slesnick & Prestopnik, 2005, 2009; Slesnick, Prestopnik, Meyers, & Glassman, 2007). On the other hand, one trial was described as an RCT, but it did not describe how the allocation sequence had been generated and whether allocation concealment was conducted. Therefore, it was judged as having an unclear risk for selection bias (Hyun, Chung, & Lee, 2005). In terms of performance bias, one RCT reported that the participants were not blinded, and this was judged as having a high risk for bias (Slesnick et al., 2007). The remaining six RCTs did not provide information on blinding of participants and personnel. Therefore, these trials were judged as having an unclear risk for bias (Baer et al., 2007; Hyun et al., 2005; Milburn et al., 2012; Peterson et al., 2006; Slesnick & Prestopnik, 2005, 2009). In terms of detection bias, adequate blinding of assessors was clearly reported in one RCT, which was judged as having a low risk for bias (Milburn et al., 2012). Two RCTs stated that the assessors were not blinded to the condition, and these were judged as having a high risk for bias (Peterson et al., 2006; Slesnick et al., 2007). The remaining four RCTs did not provide information on blinding of the outcome assessment and were therefore judged as having an unclear risk for bias (Baer et al., 2007; Hyun et al., 2005; Slesnick & Prestopnik, 2005, 2009). With respect to attrition bias due to incomplete outcome data, four RCTs reported an ITT analysis, and these trials were judged as having a low risk for bias (Milburn et al., 2012; Slesnick & Prestopnik, 2005, 2009; Slesnick et al., 2007). One RCT was also judged as having a low risk for bias because the numbers of dropouts and reasons for missing data were similar in the experimental and control groups (Hyun et al., 2005). The numbers of dropouts in the experimental and control groups were imbalanced in one RCT, which did not undertake an ITT analysis. Therefore, this trial was judged as having a high risk for bias (Baer et al., 2007). Another study did not report an ITT analysis, although the attrition rate was more than 10%. Therefore, this trial was also judged as having a high risk for bias (Peterson et al., 2006). As all the RCTs reported all expected outcomes, the risk for reporting bias due to selective reporting was considered to be low in all the trials. In addition, all the RCTs appeared to be free of other sources of bias.

The methodological quality of the four included NRCTs (Brillantes-Evangelista, 2013; McCay et al., 2011, 2015; Rew, Powell, Brown, Becker, & Slesnick, 2017) was assessed using the RoBANS appraisal tool. In terms of the selection of participants, all the NRCTs were judged to have a low risk for bias because intervention and control groups were selected from the same population group. Two studies confirmed major confounders and reported no differences between the intervention and control groups at baseline. Therefore, they were judged to have a low risk for selection bias due to confounding variables (McCay et al., 2011, 2015). The remaining two studies did not confirm major confounders and were therefore considered to have a high risk for bias (Brillantes-Evangelista, 2013; Rew et al., 2017). Measurements of the intervention were adequately described in all the NRCTs, which were judged as having a low risk for performance bias. None of the NRCTs provided information on blinding of the outcome assessment. Therefore, they were judged as having an unclear risk for detection

bias. Regarding attrition bias due to incomplete outcome data, one study stated that missing data were imputed using appropriate methods. Therefore, this study was judged to have a low risk for bias (Rew et al., 2017). The amount of missing data was imbalanced in the experimental and control groups in the remaining three studies, which were judged as having a high risk for bias (Brillantes-Evangelista, 2013; McCay et al., 2011, 2015). The risk for reporting bias due to selective outcome reporting was judged to be low in three studies, as they described predefined outcomes (Brillantes-Evangelista, 2013; McCay et al., 2011; Rew et al., 2017), excepting one study (McCay et al., 2015).

Characteristics of the Eligible Studies

Table S1 shows the main characteristics of the 11 reviewed studies. Most of the studies (n = 7) had been conducted in the United States, with the remainder conducted in Canada (n = 2), the Philippines (n = 1), and South Korea (n = 1). All the studies recruited participants from community agencies that provided services for runaway and homeless youth. Regarding the study design, there were seven RCTs and four NRCTs. The studies varied in size, and the sample sizes ranged from 15 to 285 participants. The age range of the youth in the included studies was 12–24 years. Most of the studies (n = 9) included both males and females. Two of the studies included only females or males

Characteristics of the Psychological Interventions

The psychological interventions in the included studies were categorized as follows: art therapy (n = 1), cognitive behavioral therapy (CBT) umbrella (n = 3), family therapy (n = 3), motivational interviewing (n = 2), and strengths-based interventions (n = 2). One study compared treatment outcomes in three groups, including a group that received visual arts psychotherapy, a group that received poetry psychotherapy, and a control group (Brillantes-Evangelista, 2013). The CBT-based interventions included CBT (Hyun et al., 2005), dialectical behavior therapy (DBT; McCay et al., 2015), and the community reinforcement approach (CRA; Slesnick et al., 2007). Family therapy interventions included home-based family therapy (Milburn et al., 2012), home-based ecologically based family therapy (EBFT; Slesnick & Prestopnik, 2005, 2009), and office-based functional family therapy (FFT; Slesnick & Prestopnik, 2009). One study compared treatment outcomes in three groups, including a group that received EBFT, a group that received FFT, and a control group (Slesnick & Prestopnik, 2009). Two studies reviewed motivational interviewing, focusing on increasing motivation to change substance use behavior (Baer et al., 2007; Peterson et al., 2006). A relationship-based intervention, which focused on developing strengths and self-esteem (McCay et al., 2011), and an intervention to enhance psychological capital (Rew et al., 2017) were categorized as strengths-based interventions.

In five of the included studies, the intervention providers were counselors (Baer et al., 2007; Peterson et al., 2006; Slesnick & Prestopnik, 2005, 2009; Slesnick et al., 2007). In two studies, nurses were the intervention providers (Hyun et al., 2005; Rew et al., 2017). In three separate studies, the intervention providers were a psychologist (Brillantes-Evangelista, 2013), clinician (McCay et al., 2011), and an interdisciplinary team, which consisted of youth workers, nurses, and social workers (McCay et al., 2015). The role of the nurses in the interdisciplinary team was to assess treatment integrity (McCay et al., 2015). One study did not specify the identity of the intervention provider (Milburn et al., 2012).

Four studies employed individual psychological interventions (Baer et al., 2007; McCay et al., 2015; Peterson et al., 2006; Slesnick et al., 2007), four studies employed interventions in group settings (Brillantes-Evangelista, 2013; Hyun et al., 2005; McCay et al., 2011; Rew et al., 2017), and three studies employed interventions involving the individual and their families (Milburn et al., 2012; Slesnick & Prestopnik, 2005, 2009). The frequency of delivery ranged from 4 to 16 sessions, and the duration of the intervention ranged from 1 month to 6 months. The duration of each session ranged from 30 min to 3 h (except for three studies in which data on the duration of the intervention was not mentioned; see Table S1).

Narrative Synthesis on the Outcomes of the Psychological Interventions

The reported outcomes included substance use, depression, delinquent behaviors, internalizing and externalizing behaviors, psychological distress, suicidality, and post-traumatic symptoms.

Nine of the included studies addressed outcomes relating to "substance use." Regarding studies of interventions under the CBT umbrella, DBT had no treatment effect in an alcoholism screening test (McCay et al., 2015), whereas CRA significantly reduced alcohol and drug use compared to the control condition (Slesnick et al., 2007). All three studies that evaluated family therapy reported significant therapeutic effects in terms of reduced alcohol and drug use compared to the

control group (Milburn et al., 2012; Slesnick & Prestopnik, 2005, 2009). Regarding studies of motivational interviewing, one study reported no treatment effects on alcohol abuse and illicit drug use (Baer et al., 2007), whereas one study found a significant reduction in illicit drug use other than marijuana but no reduction in alcohol and marijuana use (Peterson et al., 2006). Regarding strengths-based interventions, a relationship-based intervention showed no significant reduction in substance use (McCay et al., 2011). A study of an intervention to enhance psychological capital demonstrated that substance use significantly decreased over time but that there was no significant reduction in substance use in the intervention group compared to the control group (Rew et al., 2017).

"Depression" was the second most common evaluated outcome, and it was included in seven studies. With regard to art psychotherapy, depression was significantly decreased in a poetry group but not in a visual arts group and a control group (Brillantes-Evangelista, 2013). All the interventions under the CBT umbrella, including CBT (Hyun et al., 2005), DBT (McCay et al., 2015), and CRA (Slesnick et al., 2007), were effective in the treatment of depression. Two studies of family therapy reported no significant effect on depression (Slesnick & Prestopnik, 2005, 2009). A study of a relationship-based intervention also reported no treatment effects on depression (McCay et al., 2011).

"Delinquent behaviors" was evaluated as an outcome in four studies. One study reported no significant effect of the CRA on delinquent behaviors (Slesnick et al., 2007). Regarding studies of family therapy, one study reported that home-based family therapy was effective in reducing delinquent behaviors (Milburn et al., 2012), whereas the other two studies reported no effect of home-based EBFT and office-based FFT on delinquent behaviors (Slesnick & Prestopnik, 2005, 2009).

"Internalizing and externalizing behaviors" was evaluated in three studies. The CRA significantly reduced youths' internalizing behaviors but not externalizing behaviors compared to the control group (Slesnick et al., 2007). Two studies of family therapy reported that it had no effects on internalizing and externalizing behaviors (Slesnick & Prestopnik, 2005, 2009).

Two of the included studies measured the outcome "psychological distress." DBT significantly reduced psychological distress (McCay et al., 2015), whereas a relationship-based intervention had no treatment effect on psychological distress (McCay et al., 2011).

Two studies evaluated "suicidality." DBT significantly reduced suicidality (McCay et al., 2015), whereas a relationship-based intervention had no treatment effect on suicidality (McCay et al., 2011).

One study that evaluated "post-traumatic symptoms" reported a significant decrease in a visual arts group but not in a poetry group and a control group (Brillantes-Evangelista, 2013).

Results of the Meta-Analyses

Five RCTs (Baer et al., 2007; Peterson et al., 2006; Slesnick & Prestopnik, 2005, 2009; Slesnick et al., 2007) reported data on substance use, and a pooled analysis of the five trials showed that psychological interventions did not significantly reduce substance use (SMD −0.00; 95% CI −0.16, 0.16). Data from four RCTs (Hyun et al., 2005; Slesnick & Prestopnik, 2005, 2009; Slesnick et al., 2007) in which depression was the outcome were incorporated in a meta-analysis. A pooled analysis of these four studies showed that psychological interventions did not significantly reduce depression (SMD −0.04; 95% CI −0.44, 0.35). Three RCTs (Slesnick & Prestopnik, 2005, 2009; Slesnick et al., 2007) reported delinquent, internalizing, and externalizing behaviors, and a meta-analysis of these three RCTs showed that psychological interventions did not significantly reduce delinquent behaviors (MD −23.27; 95% CI −111.59, 65.04), internalizing behaviors (MD 0.91; 95% CI −0.96, 2.77), or externalizing behaviors (MD 2.34; 95% CI −1.62, 6.29).

Subgroup meta-analyses were conducted to compare the types of interventions. A pooled analysis of the two RCTs of family therapy (Slesnick & Prestopnik, 2005, 2009) revealed no significant effect on substance use (MD −1.20; 95% CI −10.26, 7.87), and a pooled analysis of the two RCTs of motivational interviewing (Baer et al., 2007; Peterson et al., 2006) showed no significant effect on substance use (MD 1.18; 95% CI −0.37, 2.72). Regarding depression, two RCTs found no significant effect of CBT-based interventions (Hyun et al., 2005; Slesnick et al., 2007; SMD −0.28; 95% CI −0.87, −0.30), and two RCTs (Slesnick & Prestopnik, 2005, 2009) found no significant effect of family therapy (MD 1.55; 95% CI −4.19, 7.29).

Discussion

This study was a systematic review of psychological interventions aimed at improving the mental health of runaway and homeless youth. In total, 11 studies were included in this review. As runaway and homeless youth are a hard-to-reach population, all the included studies used facility-based sampling, in which the participants were recruited from community agencies such as shelters and drop-in centers. Most of the included studies were conducted in developed countries,

which have sufficient community services for runaway and homeless youth. Further studies should be conducted in developing countries, which have weak social service systems, using recruitment strategies other than just community agencies.

In terms of methodological issues, 4 of the 11 included studies were NRCTs, and 2 of the NRCTs described the reasons for not designing an RCT. One NRCT stated that randomization resulted in reluctance among youngsters to participate in a study (McCay et al., 2015), and another NRCT stated that the number of youngsters in facilities was too small to assign participants randomly at one time (Rew et al., 2017). Although RCTs are the most rigorous method to evaluate the effects of interventions, RCTs may not be feasible for use with this vulnerable and hard-to-reach population. Therefore, alternative designs may need to be considered when conducting research involving homeless and runaway youth. Regarding ethical issues, assigning runaway and homeless youth with mental health issues to a usual or standard care group, waiting list, or control group rather than providing intensive and prompt treatment interventions can give rise to ethical concerns. To address such ethical concerns, researchers should describe the control condition of the study in detail.

Nine of the 11 studies included both male and female participants, and only 2 included a single gender. As a previous study of homeless youth reported gender differences in trauma experiences and mental health issues (Gwadz, Nish, Leonard, & Strauss, 2007), further studies of interventions tailored specifically to males or females should be conducted.

Five types of psychological interventions were identified in the 11 reviewed studies: art therapy (Brillantes-Evangelista, 2013), CBT-based (Hyun et al., 2005; McCay et al., 2015; Slesnick et al., 2007), family therapy (Milburn et al., 2012; Slesnick & Prestopnik, 2005, 2009), motivational interviewing (Baer et al., 2007; Peterson et al., 2006), and strengths-based (McCay et al., 2011; Rew et al., 2017). The strengths-based interventions adopted positive youth development perspectives and focused on youths' strengths and potential resources (Lerner, Phelps, Forman, & Bowers, 2009). Two of the included studies were nurse-led interventions: one study of CBT (Hyun et al., 2005) and one study of strengths-based interventions (Rew et al., 2017). As community mental health nurses are important in preventing mental health problems in runaway and homeless youth, further research on nurse-led interventions for runaway and homeless youth should be performed.

The intervention formats were varied, and the studies included individual interventions (n = 4), group interventions (n = 4), and family therapy (n = 3). Family involvement is important in cases of runaway and homeless youth with family conflicts. However, eligibility criteria for participation in family therapy are relatively strict. Common eligibility criteria for the participation of runaway and homeless youth in family therapy are parental participation and the potential to return home (Milburn et al., 2012; Slesnick & Prestopnik, 2005, 2009). Thus, studies of family therapy exclude youth with a low possibility of returning home due to serious family conflicts and traumatic events, such as abuse or neglect by family members. Family therapy is not appropriate for all families. Thus, prior to selecting the intervention format, an initial assessment, which takes the family environment of the individual into account, should be conducted.

Substance use was the most frequently measured outcome, followed by depression. The narrative synthesis of the data revealed that five of nine studies that assessed substance use reported positive effects of the intervention on substance use: three studies of family therapy (Milburn et al., 2012; Slesnick & Prestopnik, 2005, 2009), one study of the CRA (Slesnick et al., 2007), and one study of motivational interviewing (Peterson et al., 2006). Regarding depression, CBT-based interventions (Hyun et al., 2005; McCay et al., 2015; Slesnick et al., 2007) and poetry psychotherapy (Brillantes-Evangelista, 2013) reported positive effects on depression.

The results of the meta-analyses did not support the effects of psychological interventions on mental health outcomes. Although the narrative synthesis revealed treatment effects of family therapy on substance use, as well as treatment effects of CBT-based interventions on depression, the subgroup meta-analyses detected no significant effects. This finding was due to the scarcity of available RCTs for inclusion in the meta-analyses and the heterogeneity of the outcome variables that each study reported. Although current evidence is limited, most studies reported some positive outcomes of the treatment interventions. Further studies are needed to provide additional evidence on the effectiveness of psychological interventions.

Limitations

The results of this systematic review are based on seven RCTs and four NRCTs. The quantitative syntheses were based on data from six RCTs, as one RCT did not report the mean and *SD* of outcome variables after the intervention. The four NRCTs were included in the qualitative synthesis but not in the quantitative

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synthesis. In addition, only studies published in English were included in this review.

Conclusions

In this review we found that previous studies of psychological interventions for runaway and homeless youth mainly involved art therapy, CBT-based interventions, family therapy, motivational interviewing, and strengths-based interventions. The key findings of the narrative synthesis are that family therapy is likely to be an effective treatment intervention in cases of substance use, whereas CBT-based interventions are likely to be effective in cases of depression. However, the meta-analyses did not support treatment effects of the psychological interventions on mental health outcomes. Therefore, further research should be conducted to provide conclusive evidence on treatment outcomes of psychological interventions for runaway and homeless youth. Among the included studies, two studies (a CBT and an intervention to enhance psychological capital) were conducted by nurses. Mental health nurses in community mental health centers should assess the mental health status of runaway and homeless youth and provide timely and effective interventions for this vulnerable population. In addition, further studies of the development and evaluation of nurse-led interventions for runaway and homeless youth are needed.

Clinical Resources

- Australian Institute of Family Studies. Effects of child abuse and neglect for children and adolescents. https://aifs.gov.au/cfca/publications/effects-child-abuse-and-neglect-children-and-adolescents
- Family & Youth Services Bureau. About the Runaway and Homeless Youth Program. https://www.acf.hhs.gov/fysb/programs/runaway-homeless-youth/about
- Family & Youth Services Bureau. Runaway & homeless youth. https://www.acf.hhs.gov/fysb/programs/runaway-homeless-youth
- youth.gov. Federal programs: http://youth.gov/youth-topics/runaway-and-homeless-youth/federal-programs
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Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's web site:

Figure S1. Study flow diagram
Table S1. Detailed description of reviewed articles