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Evaluation of students' mental and social health promotion educational programs: A systematic review

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Abstract:

INTRODUCTION: Various programs are implemented internationally to promote the mental and social health of the students in schools. This study systematically reviewed and categorized all resources, indicators, and criteria for evaluating mental and social programs of schools.

MATERIALS AND METHODS: This systematic review was conducted by collecting data from the PubMed, Google Scholar, Scopus, ProQuest, and Web of Science databases using the keywords of "evaluation, mental health program, social health program, behavioral and emotional program." In the initial review, 4295 studies were found, which reduced to 75 after removing the repetitions and evaluating the studies' quality. The articles were selected using the PRISMA chart.

RESULTS: The findings resulted in three main categories of structure, process, and outcome; 16 subcategories; and 166 codes. The category of structure included the subcategories of human resources, physical space, facilities, training, needed committees and teams, financing, and implementing mental and social programs. The subcategories of process category were functional indicators, guidelines and protocols, communication, documentation, planning/coordination, time management, and monitoring. The subcategories of behavioral-therapeutic, satisfaction, and educational outcomes were associated with the outcome category.

CONCLUSION: Application of the structure, process, and outcome indicators, derived from the findings of this study, will greatly improve evaluation of the international mental health programs in schools.

Keywords:

Evaluation, health promotion, health promotion education, mental health, schools, social health

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Introduction

Successful acquisition of the psychological and social competences in childhood is the foundation of healthy growth and successful adulthood.^[1] Mental and social health of the children and adolescents, as one of the most vulnerable groups of the society, is prioritized over other groups. Children and adolescents make up approximately one-third of the world's population, and it is estimated that 10%–20% of them experience mental health problems.^[2] The mental and

social health is indispensable; it leads to long-term disabilities, chronic conditions,^[3] academic failure, behavioral disorders, self-harm, and suicide,^[4,5] if the individual's needs are not met.

The children and adolescents' future fate and severity of the mental and social trauma depend on the measures taken by family, educational organizations, religious institutions, governments, and mass media as well as the individuals' capacity to develop the required social competencies and skills for a normal social life.^[6] Children,

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adolescents, and young people spend almost half of their lives in the school environment; hence, their experiences and relationships in school can have a good impact on their health and affect their academic behavior and performance.^[7] In fact, teaching social and emotional skills along with the cognitive and scientific skills should be a central task in schools.^[8]

Internationally, one of the most comprehensive approaches to promote the mental health and prevent from social harm in schools is a program introduced by the World Health Organization (WHO) in the 1990s. According to the school's mental health program guidelines, psychological health problems should be addressed by identifying the high-risk populations, mental disorders, and screening tools; designing psychological health interventions; developing practical plans (such as team building); investigating the school's social environment; developing a program, monitoring and evaluating; as well as coordinating and modifying the programs.^[9] In order to follow-up this program, wide interventions were used in various countries to implement the mental and social programs, such as the Collaborative for Academic, Social, and Emotional Learning in the USA,^[10] the Australian mental health promotion program (KidsMatter),^[11] as well as the Social and Emotional Aspects of Learning in the UK.^[12]

After implementation of a major program in accordance with each of the health dimensions, an effective and efficient evaluation and monitoring system is required to ensure its success, maintain the strength of the program's activities, and move it in the right direction. Evaluation in health promotion programs is the process of making decisions about the value of some measurable items. In fact, the evaluation process is a criterion for the effectiveness, outcome, and ultimate impact of the program on the studied community. In other words, evaluation can demonstrate how much a program achieved the desired expectations and goals. Measurement and evaluation of the results are the key strategies to ensure the efficiency and effectiveness of all programs and to provide the supporting evidences for justifying the investment and supporting the programs.^[13]

One of the challenges in evaluating the mental health programs in schools is to determine the best way of evaluation.^[14] The mental health programs are crucially implemented in many schools around the world. These schools take into account some specific criteria and indicators for evaluation. Therefore, this study systematically reviewed and categorized all resources, indicators, and criteria for evaluating mental and social programs of schools around the world to guide their application in evaluating the school plans.

Materials and Methods

This systematic review was carried out to extract evaluation indicators of students' mental health-care system.

Information resources and search strategy

The primary keywords were determined based on the viewpoints of several experts and professionals in the field of study. Subsequently, the related keywords were extracted from the PubMed database through MESH. Although the primary keywords were considered as the basis of the study, the keywords of other related articles were used in the preliminary search and investigated by the experts. The keywords of evaluation, mental health program, social health, emotional health, schools, and their affiliated organs were investigated in the databases of PubMed, Google Scholar, Scopus, ProQuest, Web of Science, and Gray databases (thesis, conference papers, etc.) [Table 1].

Search and review articles

After searching the databases, all types of studies with different designs were examined. The only limitation in selecting the articles was language; studies written in English were selected. After performing the required searches, the primary records were studied and the repeated articles were omitted. The remaining studies were reviewed and the irrelevant ones were excluded. Later, the selected articles' abstracts were studied. Considering the inclusion and exclusion criteria, the studies carried out from 1960 to 2019 were selected for final examination.

The PRISMA flowchart was used to review the selected studies systematically. This flowchart, as a global standard for systematic studies, includes four stages of identification, screening, qualification, and inclusion.

Inclusion and exclusion criteria in the study

Inclusion criteria: All studies with a variety of designs (empirical, qualitative, survey, original, systematic reviews, etc.) were included in this research.

Exclusion criteria: Articles that assessed the effect of an educational program or intervention on the mental health or had only one outcome were excluded. The studies that conducted depression-reduction programs for students in schools, only measured the impact of the family participation, or investigated the effect of the program were also excluded. Papers which examined reducing mental and social health problems and their dimensions shortly after an intervention, except for the systematic reviews in this area, were also excluded from the study.

Quality assessment and information extraction

At this stage, the studies were assessed by reading the original papers. To determine the suitability and select the relevant articles for systematic review, a standard index was required. Therefore, the Critical Appraisal Skill Program^[15] was applied as the quality assessment and critical evaluation tool in order to evaluate all components of the article qualitatively. Information of the selected articles was stored in Excel software according to the following variables: article title, year of publication, first author's name, study purpose, indicators, and evaluation components of each study.

Results

The initial search conducted throughout the international databases (PubMed, Google scholar, Scopus, Web of science), reports, and guidelines using Google and ProQuest websites resulted in 4295 studies. After removing the duplications, 3338 studies were selected for review. The titles and abstracts of the initially selected studies were examined, and a total of 3200 articles were removed. As a result, the full texts of 138 studies were reviewed more thoroughly. Later, 65 studies were excluded because they investigated the effect of one program or intervention on reducing one outcome; 73 articles remained. Furthermore, the research references were examined, and two other studies were included in the review, which resulted in a total of 75 studies. Figure 1 illustrates the PRISMA flowchart for the study selection process in this research.

In order to present the evaluation criteria and indicators of the mental and social programs in schools, the results of this study were presented in two parts: descriptive and analytical results.

Descriptive Results

According to the results of the final studies reviewed in this study,^[1,6,11,16-83] Most of the selected studies were from the USA (54.66%), Australia (16%), and the UK (14.66%). Other studies were from China, Canada, Switzerland, Ireland, Denmark, Lithuania, and Finland. Interest in the subject of the schools' mental and social health has started since 1963, and its seriousness has had an increasing trend since the WHO's guidelines in 1994. Furthermore, 49.33% of the studies were original articles and others were reports, guidelines, thesis, and reviews.

The findings achieved from group discussions were classified under three main categories of structure, process, and outcome; 16 subcategories; and 166 codes. The first main category contained the structural indicators, which included material resources (facilities, equipment, and financing), human resources (such

as the number and quality of the personnel), and organizational structure. Structure refers to the essential features affecting the system's capability to address the individuals' needs. The structure category consisted of six subcategories and 44 codes. The process indicators are the other main category comprising a set of evaluating indicators. In fact, based on the information collected from studies, the process indicators refer to evaluation of the activities and tasks in implementing programs and rendering services. In other words, the process category monitors and controls the ongoing activities. The main category of process indicators is divided into five subcategories and 94 codes. The third major category was outcome indicators. These indicators should be evidence based and reflect the results of implementing the program. The outcome category consisted of three subcategories and 28 codes [Table 2].

Analytical Results

According to the extracted results, 7, 28, and 65 studies referred to structure, process, and outcome indicators, respectively. Some studies only addressed some of these indicators, and some papers dealt with a combination of these factors.

In the structure category, most studies focused on the staff training in evaluations (five studies). In the process category, 22 studies referred to the subcategory of communication and partnership and 21 papers investigated the implementational indicators (supporting-caring actions). Among the outcome indicators, the behavioral outcome and satisfaction subcategories were mentioned in 62 and 58 studies, respectively [Figure 2]. The two most frequently cited indicators of "teachers with training courses' certificates" (six studies) and "making an interorganizational team" (three studies) were the most frequently cited codes. Regarding the process category, "coordination rate of the institutions involved in the implementation of the program" (22 studies) and "rate of the parental involvement with school" (18 studies) were the two main codes with the highest frequency among studies. Finally, in the outcome category, the two codes of "reduction rate of the social harm among students and their academic achievements" were reported as the most frequent codes in 16 and 12 studies, respectively.

Discussion

Considering implementation of psychosocial health care in schools and its importance in the comprehensive promotion of health dimensions, evaluation of the executive programs is necessary. The aim of evaluation is to analyze the related problems, identify the executive needs of the program, and determine the positive effects

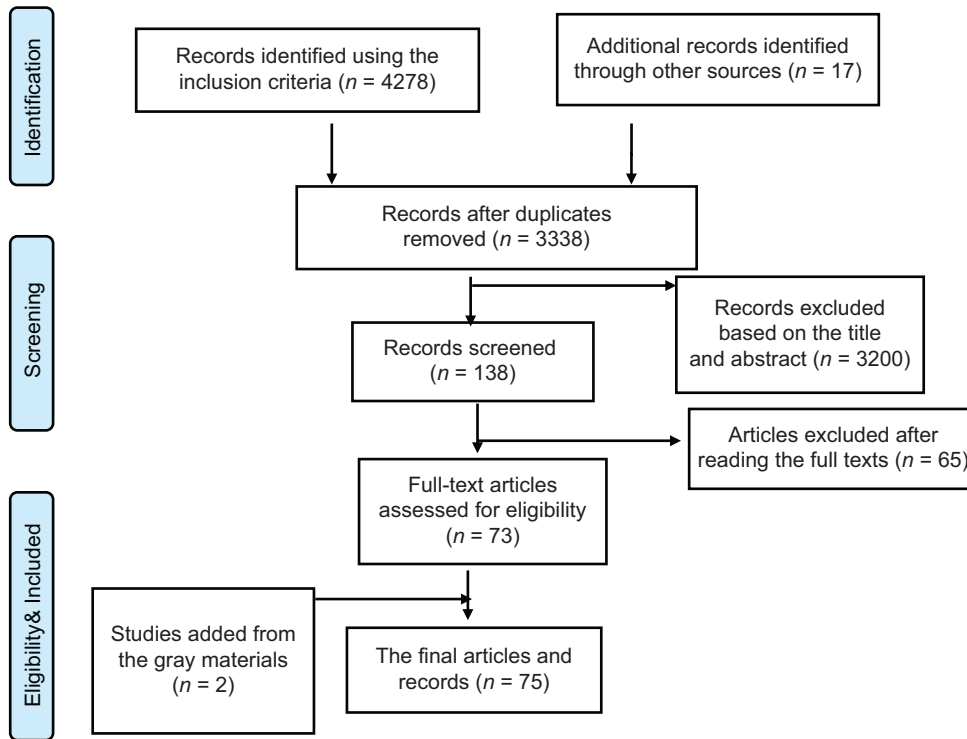


Figure 1: PRISMA flowchart for study selection process in this research

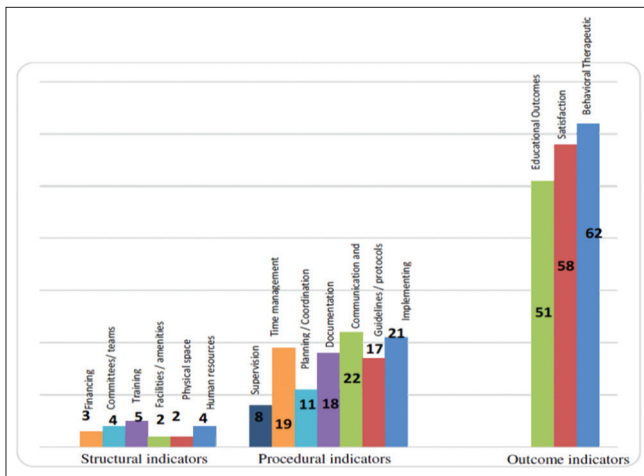


Figure 2: Frequency of the evaluation indicators of mental and social health promotion programs in schools based on the number of studies

of this program on the social and mental health of the students.

In implementing each program, challenges of funding, resources, program structure, staffing and training, partnerships, quality assurance, etc., exist that should be considered separately in evaluation so that the administrators can develop the future programs based on them.^[50]

The indicators extracted from the literature review were categorized into three categories of structure, process,

and outcome. In the first category, which refers to the basic structural dimension in program evaluation, the program's basis is evaluated. Provision of private counseling room, telephone line, and human resources in all the required groups; formation of the supporting teams; and establishment of a library from appropriate training resources are among the required structural components.^[50]

Selection of the staff who provide the mental health services in a school is an essential component to succeed in a program. Mental health professionals in schools work across a range of disciplines, including counseling, social work, occupational therapy, psychology, and psychiatry.^[36] Trained psychologists, counselors, teachers, managers, and psychiatrists with a sociologicistic view are also of great importance. The psychiatrist not only should be an expert in evaluating and delivering interventions, but also must be aware of and educated about all the possible factors associated with the community, school, family, etc., that affect one's behavior.^[50] Apart from employing sufficient human resources, staff training is needed before implementation of the program to advance the program.^[84] Employees should receive trainings on issues such as the executive style details, the role of each individual and each organization, as well as the related political and legal issues and documents. In addition to in-service training, continuance of the staff training should be considered. Studies suggest that one of the most important barriers of implementing

Table 1: Descriptive information The most relevant and most recent systematic review studies

Row	First author	Country	Years	Study objective
1	Shek ^[28]	China	2012	Effectiveness of programs in the area of youth social health (intervention phase)
2	Lyon ^[33]	The USA	2013	Promoting educational outcomes from school mental health programs
3	Adams-Langley ^[34]	The UK	2013	The process of parental cooperation and its evaluation in the school mental health program
4	Eberhart NK ^[42]	The USA	2017	Evaluating the quality of mental illness prevention programs in students
5	Claire Blewitt B ^[43]	Australia	2018	The Effectiveness of Emotional and Social Interventions in Students on Students' Learning Level
6	Askill-Williams ^[47]	Australia	2013	Quality assessment of employing students' mental health in primary schools, KidsMatter
7	White ^[57]	The USA	2017	Evaluation of a school-based educational supporting program model to provide short-term social and emotional courses for students
8	O'Reilly ^[58]	Ireland	2016	Evaluation of a school-based mental health program
9	Montañez ^[59]	The USA	2015	Evaluation of a mental health promotion program
10	Guzmán ^[60]	The USA	2015	External evaluation of the world's largest life skills program and its impact on students' behavioral and academic outcomes
11	Kang-Yi ^[6]	Australia	2013	Evaluating the impact of school-based mental health programs on school-based outcomes in students The rate of acute health-care utilization
12	Grassetti ^[61]	The USA	2018	Describing and evaluating referrals and interventions
13	Banerjee ^[63]	The UK	2014	Evaluating the mental health program implementation in schools and its relationship with several key indicators of students' success
14	Wigelsworth ^[70]	The UK	2012	Evaluating schools' emotional-social programs at the national level
15	Bywater ^[72]	The UK	2012	Identifying the evidence-based programs related to mental health and social well-being and evaluating their expected consequences
16	Wong ^[73]	China	2014	Evaluating the effect of schools' mental health programs on students' success

evidence-based mental health interventions at school is lack of training among the schools' mental health professionals.^[85] Various executive committees should be formed to coordinate the activities better and advance goals faster prior to commencing the schools' mental health programs. These committees include the internal affairs' planning committee and a variety of supporting teams. The committees will be formed with the presence of their members, including the school administrator, coordinator, psychologist, teacher, representatives of the external organs, and other individuals. The goals of these individuals are to specify the roles and responsibilities of each stakeholder and organization in implementation of the program, to criticize the policies and rules, and to criticize the program's structure. Such goals will serve as the basic infrastructure for program implementation by conducting teamwork as well as enhancing internal and external engagement with the community. The aim is to form an advisory committee, in which each member is the representative of one stakeholder.^[75] Within the implementational framework of the program, effective components of the interventions must be executed with clarity, transparency, appropriate leadership, stakeholders' engagement, full compliance with guidelines, as well as careful evaluation and monitoring.^[1]

Practical stages of the mental health programs are implemented in schools across different countries with similar backgrounds, which include prevention, screening, referral, and treatment interventions. Prevention interventions are provided to all students

regardless of the risk or protective factors. Screening is intended to identify the high-risk students with mental disorders and to refer them to different centers depending on their problem type.^[86] In the performance area, one of the most important criteria for promoting the program was to consider quality of the service delivery so that the schools' license and budget to continue their activity were conditioned by providing high-quality services and continuous monitoring over these services.^[50] According to Durlak *et al.*, the quality of service delivery is mostly affected by the quality of the teacher-provided instruction to students in achieving the goals.^[1]

All stages of the program are executed by various stakeholders including teachers, counselors, psychiatrists, school administrators, and, most importantly, students' parents.^[86,87] Collaboration among education staff, community mental health staff, school stakeholders, and society is a specific characteristic of the mental health programs. Social workers, psychologists, nurses, psychiatrists, parents, students, teachers, and school administrators must have collaboration with each other as interorganizational staff and work together to advance the program.

Walsh conducted a national survey over school psychologists and stated that 25% of them were not involved in any mental health programs.^[88] Individuals' participation rate in school meetings to enhance the students' psychosocial health is an example of this

Table 2: Evaluation indicators of the students' mental health promotion programs in schools based on the selected studies' content analysis

Category	Subcategory	Codes
Structure	Human resources	Coordinator, consultant, social worker, psychiatrist, occupational therapist, nurse, psychologist, supporter, teacher, macro-level supervisor, referrer, and team leader
	Physical space	Head office, archival room, and private consulting room
	Facilities/amenities	Amenities in central office (comfortable chair, poster), telephone line, dedicated email address, Internet connection, educational resources, library, and fax
	Training	Employees' development programs, certification of personnel approved by the government agencies, in-service training courses, and certified continuous training courses
	Committees/teams	Student identification team, treatment team, supporting team, advisory board (consisting of the stakeholders' representatives), interorganizational team to coordinate activities (operational), crisis team (emergency), planning special committee, diagnostic tools' development committee, and representative team of agencies and students
Process	Financing	Parents' ability to pay for treatment, clear cost allocations, and adequate funding provision
	Implementing (supporting-caring measures)	Percentage of students visited by a psychiatrist, productivity of the psychiatrists, adequacy of referral services, number of the students on waiting list Number of students with mental health problems during the year, amount of staff encouragement by the administrator, number of services provided for each student, average number of treatment sessions per person, number of students not attending the visits/frequent meetings, evaluation of staff training activities, innovation in teachers' performance, number of students treated by a physician per day (standard: 12-15 students), receiving and recording the parental reports, providing high-quality services, parents' group training, specifying the number of diagnostic evaluations, implementation of an educational program in accordance with program, number of units provided for classroom instruction, encouraging the employees to participate in the program by the school principal, and appropriate classroom conditions and atmosphere to implement the programs School administrator's support of innovations, sending newsletters and educational booklets to parents, encouraging parents to participate in the project, schools' responsiveness to parents, type of the received services, students' need assessment to conduct the programs, specific reasons for referral, specific number of monthly referrals, specific number of referrals for hospitalization, number of students identified for referral, qualified implementation of the educational topics, individual/group counseling, ongoing follow-up of students under intervention, and availability of group educational classes for students
	Guidelines/protocols	The role of different organs, ways to access the external service providers, ways to monitor executive processes, ways to obtain parental consent to evaluate the child, teacher's guidelines, the types of referring, the amount of parental involvement with school, quality of the communication between partner organizations and schools in implementing the program, participation of psychiatrists in school committees and teams, ways of identifying high-risk students, ways of communication among stakeholders, ways of reporting specific cases, and providing critical intervention care services
	Communication and partnership	Ways of communication between parents and standard centers of mental health, staff participation in planning, stakeholder participation in meetings, teacher engagement with students, appropriate relationships between mental health training unit and physical activity training unit, nutrition and health, presence of the supervisors after the classes or at weekends, counselors' involvement with students and parents, and stakeholders' (student, teacher, parent, administrator, etc.) participation in the implementation of the program contents
	Documentation	Individual treatment interventions, parental counseling interventions, types of provided services, continuous program for implementing the social and mental health style, conventions, minutes of holding various courses for in-school stakeholders, students' mental health records, interviews with parents, communication with stakeholders to provide services, presence or absence of individuals in meetings and programs, cooperation of the psychologist/consultant/social worker with other agencies including welfare offices and clubs, referral data, following the conducted actions, presence or absence of the meetings, alternate schedule of meetings, coordination between agencies, interviews with students, ways of communication with social organizations and providers, and program for the summer
	Planning/coordination	Planning to continue care delivery, including strengthening mental health, having early intervention and treatment, formulating strategies to achieve goals, adjusting the time of mental health programs with the school curricula, scheduling meetings with out-of-school institutions, and coordinating the mission and actions with the program goals

Contd...

Table 2: Contd...

Category	Subcategory	Codes
	Time management in service delivery	Time spent on initial examination to identify the students, average total treatment time, and length of time required to complete the treatment (number of days) Sufficient time allocated by the counselor, time allocated to planning for mental health classes, average time of the counselor's attendance, average time of the social worker's attendance, average time of the psychologist's attendance, the interval between the referral time and initial treatment, average time of the school (counselors/teachers, etc.) per week for parents, hours of educational classes, duration of the counseling sessions (students and parents), rendering counseling services on weekends, average care time per person, the interval between the initial referral and the first meeting of the psychiatrist and the student, time allocated to scheduling, time allocated to execution, hours of services provided by each person per week, total duration of receiving services by students, average time of mental health services per person per week, average duration of the treatment session, access to emergency services onsite or 24 h referral during the 7 days of the week, regular visits during 7 days, urgent visits in 48 h, immediate visits in emergencies, the mean time spent on staff training, the weakly mean time spent on planning and executing by the executive time, and average duration of each evaluation
	Supervision	Assessment of referral process, evaluation of training courses, evaluation of service packages, evaluation of staff performance, evaluation of preventive services, and evaluation of treatment process
Outcome	Behavioral therapeutic	Promotion of positive attitude toward school, decrease of disciplinary measures, number of students who did not complete the treatment, improvement of mental health, improvement of social skills, improvement of communication skills, number of improved students, knowledge level, and increased level of attitude and performance in the field of social mental health
	Satisfaction	Way of doing and managing assignments from the teachers' and parents' perspective, assessing students' and parents' knowledge of educational issues, school staff satisfaction with the program implementation process, assessing students' and parents' views on educational issues, rate of complaints made from the program, assessment of the students' satisfaction in all dimensions (lecturer, classroom, education, counselor, etc.), and parental satisfaction assessment in all dimensions
	Educational outcomes	Getting to school on time, not canceling or going out of the class, student probation in 1 academic year, academic achievement based on the grades' increase, decrease of the dropout rate, student re-enrollment rate, students' school attendance rate, reduction of the students' absenteeism, and the number of students' dismissals

process.^[35] The schools' counselors can assist the psychological assessment and identification of the students by cooperating with the schools' psychologists. School psychologists and counselors can experience group participation in problem-solving team meetings with teachers and administrators. This allows interprofessional collaboration to provide the students and families with the best recommendations and resources. Students and families also can offer their learning theories and experiences to teachers and staff with regard to classroom management behaviors and strategies.^[41] In addition to interorganizational communication, external communication with supervisory levels and provincial committees, clinics, recreational areas for student camps, and most importantly parents should demonstrate teamwork and rapport to promote the students' mental health.^[50] Coordination and co-operation of the external organizations with the educational organization and schools are among the other important principles. Interdepartmental and interagency collaborations should be carried out to improve the students' ability to access the mental health services and increase their opportunities to achieve an appropriate health level, develop a positive attitude in stakeholders about each other's roles, and establish a supporting cooperation

system.^[89] The relationship between family and school, as a system in which the student plays a strong role, has a great impact on the successful implementation of the program. Cooper showed that having parents, as a strong component in the mental health services, improves engagement of the family and youth.^[90] In cross-sectoral collaborations, the discussion over financing to implement the programs is provided by increasing the coordination with other organizations and improving the public infrastructure.^[91] Moreover, cooperation between the private and public sectors leads us to achieve the goals faster.^[92] Survey results in high-income countries indicate that higher family participation and cooperation in school-based mental health interventions leads to better social, scientific, and psychological performance in students.^[93]

Guidelines and instructions are other key components in the implementation process. Because direct application of the best available evidences in care research is a time-consuming and difficult process for the health-care workers, guidelines are used as facilitators for this purpose. These guidelines and instructions include systematically formulated suggestions that help decision makers and patients with regard to appropriate health

care in specific circumstances. Guidelines have been formulated and used as an essential tool for improving the quality of health care, promoting disease outcomes, reducing variation in clinical practice, reducing costs, and measuring staff performance.^[94] Regarding the students' mental health issues, similar to the treatment of patients at the treatment stage, protocols and guidelines are needed to take measures. Effective guidelines in this area include the ones that provide educational and preventional programs, recognition and management of the youths who are at high suicidal risk, student and staff empowerment, collaboration, participation, and cooperation. The purpose of these guidelines is to increase the knowledge and skills of the people engaged in the school environment (administrators, teachers, psychologists, counselors, nurses, and supporting staff) as well as the organizations outside the school environment to use the best practical strategies with regard to mental health.^[95]

Documentation of all taken measures, including identification techniques, referrals, interventions, provided services, and all other actions implemented during the application delivery process are the other requirements in evaluating the mental health programs in schools. Their aim is to use the previous information in future. In addition, operating procedures must be documented so that their therapeutic effect can be evaluated.^[96]

Outcome evaluation, as the last part of the evaluation, answers this question: Did we achieve the goals by taking the initiative and operative actions? The main purpose of evaluating outcomes of the school-based educational programs is to determine whether such programs have any significant positive effect to be considered as an effective tool?^[97] Evaluation of the outcome indicators and their enhancement lead to high levels of satisfaction among the investors in these programs because they meet the students' needs.^[75] Sheck evaluated the students' and teachers' mental health in a school mental health improvement program. With regard to the outcomes' effectiveness, Sheck showed that students generally have positive views toward this program. The participants agreed that the program increased their growth and made some positive changes in them. In fact, >98% of the students reported that the program and instructors were helpful.^[28] One of the most important indicators in outcome evaluation is examining the number of students who completed the treatment process successfully and their current mental health status in comparison with the past. In addition, the students who were referred to the treatment centers and underwent the interventional measures, but did not complete the treatment process, must be followed up and the causes of their withdrawal should be investigated.^[61]

Implementation of the psychosocial health programs promotes the individuals' mental health including emotional skills; self-esteem; and positive attitude toward self, others, and school, reduces anxiety and depression, and promotes positive social behaviors; in other words, it prevents from bullying, conflict, aggression, and abuse.^[80] Other educational implications of implementing this program include improvement in school attendance, decrease of suspension, as well as promotion of grades and academic achievement for the participants.^[6] All of these indicators should be taken into account in evaluating programs for social and mental health.

Conclusion

Considering the importance of evaluating health plans at the national and international levels, evaluation of the mental and social health programs is of great importance. Therefore, evaluation of this program should be planned at the developmental stage. To hit this target, we extracted the effective factors on the evaluation of these programs by conducting a comprehensive and systematic review over the international studies. As a result, a series of structural, procedural, and outcome indicators were achieved. Coordination and application of these indicators will assist evaluation of the mental health programs in schools internationally. Consequently, application of these indicators, as a tool for evaluating programs and using components, will be different according to schools' native conditions.

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Conflicts of interest

There are no conflicts of interest.

References

1. Durlak JA, Weissberg RP, Dymnicki AB, Taylor RD, Schellinger KB. The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Dev* 2011;82:405-32.
2. Kieling C, Baker-Henningham H, Belfer M, Conti G, Ertem I, Omigbodun O, et al. Child and adolescent mental health worldwide: Evidence for action. *Lancet* 2011;378:1515-25.
3. Scott KM, Von Korff M, Angermeyer MC, Benjet C, Bruffaerts R, de Girolamo G, et al. Association of childhood adversities and early-onset mental disorders with adult-onset chronic physical conditions. *Arch Gen Psychiatry* 2011;68:838-44.
4. Patel V, Flisher AJ, Hetrick S, McGorry P. Mental health of young people: A global public-health challenge. *Lancet* 2007;369:1302-13.
5. Fergusson DM, Woodward LJ. Mental health, educational, and social role outcomes of adolescents with depression. *Arch Gen Psychiatry* 2002;59:225-31.

6. Kang-Yi CD, Mandell DS, Hadley T. School-based mental health program evaluation: Children's school outcomes and acute mental health service use. *J Sch Health* 2013;83:463-72.
7. Sturgeon S. Promoting mental health as an essential aspect of health promotion. *Health Promot Int* 2006;21 Suppl 1:36-41.
8. Garber J, Frankel SA, Herrington CG. Developmental demands of cognitive behavioral therapy for depression in children and adolescents: Cognitive, social, and emotional processes. *Annu Rev Clin Psychol* 2016;12:181-216.
9. World Health Organization. *Mental Health Programmes in Schools*. Geneva: World Health Organization; 1994. Available from: http://whqlibdoc.who.int/hq/1993/WHO_MNH_PSF_93.3_Rev.1.pdf. Last Access: 2019 June 24.
10. Collaborative for Academics, and Emotional Learning. Available from: <https://casel.org/>. Last Access: 2019 June 24.
11. Dix KL, Shearer J, Slee PT, Butcher C. *KidsMatter for Students with A Disability: Evaluation Report*. Ministerial Advisory Committee: Australia; 2010.
12. Humphrey N, Kalambouka A, Bolton J, Lendrum A, Wigelsworth M, Lennie C, et al. *Primary Social and Emotional Aspects of Learning (SEAL)*. Department for Children, Schools and Families: London; 2008.
13. Hatry HP. *Performance Measurement: Getting Results*. Washigton D.C: The Urban Institute; 2006.
14. Albright A, Michael K, Massey C, Sale R, Kirk A, Egan T. An evaluation of an interdisciplinary rural school mental health programme in Appalachia. *Adv Sch Mental Health Promot* 2013;6:189-202.
15. Singh J. Critical appraisal skills programme. *Journal of Pharmacology and Pharmacotherapeutics* 2013;4:76-7.
16. Nabors LA, Reynolds MW. Program evaluation activities: Outcomes related to treatment for adolescents receiving school-based mental health services. *Children's Services. Soc Policy Res Pract* 2000;3:175-89.
17. Barry MM, Clarke AM, Jenkins R, Patel V. A systematic review of the effectiveness of mental health promotion interventions for young people in low and middle income countries. *BMC Public Health* 2013;13:835.
18. Amador A. Boston Public Schools OSESS Behavioral Health Services And Sch Based Mental Health Collaborative have Developed the Standards for School-Based Mental Health Services. USA; 2012.
19. Allen S. *School-Based Mental Health Services and Supports: Needs Assessment and Recommendations*. USA; 2007.
20. Hendren R. Mental health programs in schools. In: *World Health Organization, editor. Division of Mental Health*. Switzerland: Geneva; 1994.
21. Beavon DJ, Spence N, White J. *Aboriginal well-being: Canada's Continuing Challenge*. Toronto: Thompson Educational Publication; 2007. p. xii, 234.
22. Cowen EL, Izzo LD, Miles H, Telschow EF, Trost MA, Zax M. A preventive mental health program in the school setting: Description and evaluation. *J Psychol* 1963;56:307-56.
23. Dix KL, Slee PT, Lawson MJ, Keeves JP. Implementation quality of whole-school mental health promotion and students' academic performance. *Child Adolesc Ment Health* 2012;17:45-51.
24. Mishara BL, Ystgaard M. Effectiveness of a mental health promotion program to improve coping skills in young children: Zippy's friends. *Early Child Res Q* 2006;21:110-23.
25. Weist M, Lever N, Stephan S, Youngstrom E, Moore E, Harrison B, et al. Formative evaluation of a framework for high quality, evidence-based services in school mental health. *Sch Mental Health* 2009;1:196-211.
26. Slee PT, Murray-Harvey R, Dix KL, Skrzypiec G, Askell-Williams H, Lawson MJ, et al. *KidsMatter Early Childhood Evaluation Report*. Australia: Shannon Research Press; 2012.
27. Hallam S. An evaluation of the Social and Emotional Aspects of Learning (SEAL) programme: Promoting positive behaviour, effective learning and well-being in primary school children. *Oxford Rev Educ* 2009;35:313-30.
28. Shek DT, Yu L, Ho VY. Subjective outcome evaluation and factors related to perceived effectiveness of the project P.A.T.H.S. In Hong Kong. *ScientificWorldJournal* 2012;2012:490290.
29. Torres A. *School-Based Mental Health Care Program Evaluation*. California State University: San Bernardino; 2018.
30. Bruns EJ, Walrath C, Glass-Siegel M, Weist MD. School-based mental health services in Baltimore: Association with school climate and special education referrals. *Behav Modif* 2004;28:491-512.
31. Price OA, Lear JG. *School Mental Health Services for the 21st Century: Lessons from the District of Columbia School Mental Health Program*. Washington: Center for Health and Health Care in Schools; 2008.
32. Swick D, Powers JD. Increasing access to care by delivering mental health services in schools: The school-based support program. *Sch Community J* 2018;28:129-44.
33. Lyon AR, Borntreger C, Nakamura B, Higa-McMillan C. From distal to proximal: Routine educational data monitoring in school-based mental health. *Adv Sch Ment Health Promot* 2013;6:1-17.
34. Adams-Langley S, Evert H. Place2Be in the inner city: A school-based mental health service in the United Kingdom. *Int J Sch Based Fam Couns* 2013;5:1-14.
35. Kline H. Evaluating the effectiveness and utilization of school-based mental health programs. Sophia, the St. Catherine University repository; 2012. Availbale from: https://sophia.stkate.edu/msw_papers/119.
36. Eberhart NK, Burnam MA, Berry SH, Collins RL, Ebener PA, Ramchand R, et al. Evaluation of California's statewide mental health prevention and early intervention programs: Summary of key year 2 findings. *Rand Health Q* 2015;5:15.
37. Eberhart NK, Cerully JL, Shearer AL, Berry SH, Burnam MA, Ebener PA. *Evaluation Approaches for Mental Health Prevention and Early Intervention Programs*. California: RAND; 2017.
38. Hargrave D. *School-Based Mental Health Practices in Utah: A Descriptive Study*. Utah State University: USA; 2015.
39. Stewart D. Implementing mental health promotion in schools: A process evaluation. *Int J Mental Health Promot* 2008;10:32-41.
40. Dray J, Bowman J, Campbell E, Freund M, Wolfenden L, Hodder RK, et al. Systematic review of universal resilience-focused interventions targeting child and adolescent mental health in the school setting. *J Am Acad Child Adolesc Psychiatry* 2017;56:813-24.
41. Brener ND, Weist M, Adelman H, Taylor L, Vernon-Smiley M. Mental health and social services: Results from the school health policies and programs study 2006. *J Sch Health* 2007;77:486-99.
42. Eberhart NK, Burnam MA, Berry SH, Collins RL, Ebener PA, Ramchand R, et al. Evaluation of California's Statewide Mental Health Prevention and Early Intervention Programs: Summary of Key Year 2 Findings. *Rand health quarterly* 2015;5 (1):15.
43. Claire Blewitt BMF-T, Andrea Nolan. Social and Emotional Learning Associated With Universal Curriculum-Based Interventions in Early Childhood Education and Care Centers. *JAMA Netw Open* 2018;1 (8):e185727.
44. Slee PT, Murray-Harvey R, Dix KL, Van Deur PA. Quality Assurance for KidsMatter Primary: A Scoping Paper. Australia: the National Depression Initiative; 2011.
45. Domitrovich CE, Bradshaw CP, Poduska JM, Hoagwood K, Buckley JA, Olin S, et al. Maximizing the implementation quality of evidence-based preventive interventions in schools: A Conceptual framework. *Adv Sch Ment Health Promot* 2008;1:6-28.
46. Shek DT, Sun RC, Kan VW. Full implementation of the secondary 1 program of project P.A.T.H.S.: Observations based on the co-walker scheme. *ScientificWorldJournal* 2009;9:982-91.
47. Askell-Williams H, Dix KL, Lawson MJ, Slee PT. Quality of

- implementation of a school mental health initiative and changes over time in students' social and emotional competencies. *Sch Eff Sch Improv* 2013;24:357-81.
48. Nabors LA, Leff SS, Power TJ. Quality improvement activities and expanded school mental health services. *Behav Modif* 2004;28:596-616.
 49. Weist MD, Nabors LA, Myers CP, Armbruster P. Evaluation of expanded school mental health programs. *Community Ment Health J* 2000;36:395-411.
 50. Armbruster P. The administration of school-based mental health services. *Child Adolesc Psychiatr Clin N Am* 2002;11:23-41.
 51. Nabors LA, Weist MD, Tashman NA, Myers CP. Quality assurance and school-based mental health services. *Psychol Sch* 1999;36:485-93.
 52. Nabors LA, Weist MD, Reynolds MW. Overcoming challenges in outcome evaluations of school mental health programs. *J Sch Health* 2000;70:206-9.
 53. Seiler L, Millhauser B, Finkel A, Fuchs D, Bogart H, Manning J, et al. *The Big Shot*. United States: Warner Bros, Pictures; 1942.
 54. Frohman D, Frohman C, Croisset Fd, Leblanc M, Lyceum Theatre. 45th Street), Theater Playbills and Programs Collection (Library of Congress). New York: Arsène Lupin; 1909.
 55. Brent DA, Howell M. Data based program evaluation in a project involving mental health consultation to schools. *J Am Acad Child Psychiatry* 1983;22:447-53.
 56. Lyon AR, Bruns EJ. From evidence to impact: Joining our best school mental health practices with our best implementation strategies. *Sch Mental Health* 2019;11:106-14.
 57. White H, LaFleur J, Houle K, Hyry-Dermith P, Blake SM. Evaluation of a school-based transition program designed to facilitate school reentry following a mental health crisis or psychiatric hospitalization. *Psychol Sch* 2017;54:868-82.
 58. O'Reilly A, Barry J, Neary ML, Lane S, O'Keeffe L. An evaluation of participation in a schools-based youth mental health peer education training programme. *Adv Sch Mental Health Promot* 2016;9:107-18.
 59. Montañez E, Berger-Jenkins E, Rodriguez J, McCord M, Meyer D. Turn 2 us: Outcomes of an urban elementary school – Based mental health promotion and prevention program serving ethnic minority youths. *Child Sch* 2015;37:100-07.
 60. Guzmán J, Kessler RC, Squicciarini AM, George M, Baer L, Canenguez KM, et al. Evidence for the effectiveness of a national school-based mental health program in Chile. *J Am Acad Child Adolesc Psychiatry* 2015;54:799-8070.
 61. Grasseti SN, Williamson AA, Herres J, Kobak R, Layne CM, Kaplow JB, et al. Evaluating referral, screening, and assessment procedures for middle school trauma/grief-focused treatment groups. *Sch Psychol Q* 2018;33:10-20.
 62. Adi Y, Killoran A, Janmohamed K, Stewart-Brown S. Systematic Review of the Effectiveness of Interventions to Promote Mental Wellbeing in Children in Primary Education. *Database of Abstracts of Reviews of Effects (DARE): Quality-assessed Reviews*; 2007.
 63. Banerjee R, Weare, K, Farr W. Working with 'social and emotional aspects of learning' (SEAL): Associations with school ethos, pupils' social experiences, attendance, and attainment. *Br Educ Res J* 2014;4:718-42.
 64. Byrne M, Barry M, NicGabhainn S, Newell J. The development and evaluation of a mental health promotion programme for post-primary schools in Ireland. *The Health Promoting School*. International Advances in Theory, Evaluation and Practice. Copenhagen: Danish University of Education Press; 2005. p. 389-415.
 65. Durlak JA, DuPre EP. Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *Am J Community Psychol* 2008;41:327-50.
 66. Barry MM, Clarke A, Hussein Y, Morreale S, Field C. What Works In Enhancing Social And Emotional Skills Development During childhood and adolescence? A Review of The evidence on the Effectiveness of School-Based and Out-of-School Programmes in the UK; 2015.
 67. Sklad M, Diekstra R, Ritter MD, Ben J, Gravesteijn C. Effectiveness of school-based universal social, emotional, and behavioral programs: Do they enhance students' development in the area of skill, behavior, and adjustment? *Psychol Sch* 2012;49:892-909.
 68. Salerno JP. Effectiveness of universal school-based mental health awareness programs among youth in the United States: A systematic review. *J Sch Health* 2016;86:922-31.
 69. Blewitt C, Fuller-Tyszkiewicz M, Nolan A, Bergmeier H, Vicary D, Huang T, et al. Social and emotional learning associated with universal curriculum-based interventions in early childhood education and care centers: A systematic review and meta-analysis. *JAMA Netw Open* 2018;1:e185727.
 70. Wigelsworth M, Humphrey N, Lendrum A. A national evaluation of the impact of the secondary social and emotional aspects of learning (SEAL) programme. *Educ Psychol* 2012;32:213-38.
 71. Zins JE, Bloodworth MR, Weissberg RP, Walberg HJ. The scientific base linking social and emotional learning to school success. *J Educ Psychol Consult* 2007;17:191-210.
 72. Bywater T, Sharples J. Effective evidence-based interventions for emotional well-being: Lessons for policy and practice. *Res Pap Educ* 2012;27:389-408.
 73. Wong AS, Li-Tsang CW, Siu AM. Effect of a social emotional learning programme for primary school students. *Hong Kong J Occup Ther* 2014;24:56-63.
 74. Guide C. *Effective social and emotional learning programs. Preschool and Elementary School*. 9th Ed. Collaborative for Academic, Social, and Emotional Learning: Chicago; 2013.
 75. Acosta OM, Tashman NA. Providing mental health services to youth where they are: School and community based approaches. In: Ghuman HS WM, Sarles RM, editors. *Establishing Successful School Mental Health Programs: Guidelines and Recommendations*. Routledge: Great Britain; 2013. p. 57.
 76. Zins JE. *Building Academic Success on Social and Emotional Learning: What Does the Research Say?* *Reading and Writing Quarterly*. 2007;23 (2): 197-202.
 77. Jones S, Brush K, Bailey R, Brion-Meisels G, McIntyre J, Hkhan J. *Navigating SEL from the Inside Out. Looking Inside and Across 25 Leading SEL Programs: A Practical Resource for Schools and OST Providers*. Cambridge: Harvard Graduate School of Education; 2017.
 78. Björklund K, Liski A, Samposalo H, Lindblom J, Hella J, Huhtinen H, et al. "Together at school" – A school-based intervention program to promote socio-emotional skills and mental health in children: Study protocol for a cluster randomized controlled trial. *BMC Public Health* 2014;14:1042.
 79. Wrabel SL, Hamilton LS, Whitaker AA, Grant S. *Investing in Evidence Based Social and Emotional Learning*. U.S.: Rand Corporation; 2018.
 80. Weare K. *Promoting mental, emotional and social health: A whole school approach*. London: Routledge; 2013.
 81. Payton J, Weissberg RP, Durlak JA, Dymnicki AB, Taylor RD, Schellinger KB, et al. *The Positive Impact of Social and Emotional Learning for Kindergarten to Eighth-Grade Students: Findings from Three Scientific Reviews*. Technical Report. Collaborative for Academic, Social, and Emotional Learning (NJ1); 2008.
 82. Citizens' Committee for Children of New York IC. *A Prescription for Expanding School-Based Mental Health Services In New York City Public Elementary Schools*. USA: Citizens' Committee for Children of New York; 2013.
 83. Bywater T, Sharples J. Effective evidence-based interventions for emotional well-being: Lessons for policy and practice. *Res Pap Educ* 2012;27:389-408.

84. Maldonado-Durán JM, Garcia JM, Lartigue T, Karacostas V. Infant mental health, new evidence. *Salud Mental* 2002;25:59-67.
85. Langberg JM, Becker SP, Epstein JN, Vaughn AJ, Girio-Herrera E. Predictors of response and mechanisms of change in an organizational skills intervention for students with ADHD. *J Child Fam Stud* 2013;22 (6):1-22.
86. Fazel M. Psychological and psychosocial interventions for refugee children resettled in high-income countries. *Epidemiol Psychiatr Sci* 2018;27:117-23.
87. Fazel M, Hoagwood K, Stephan S, Ford T. Mental health interventions in schools 1: Mental health interventions in schools in high-income countries. *Lancet Psychiatry* 2014;1:377-87.
88. Walsh AS. Interdisciplinary Collaboration for Youth Mental Health: A National Study. USA: Scholar Commons University of South Florida (USF); 2013.
89. Palinkas LA, Fuentes D, Finno M, Garcia AR, Holloway IW, Chamberlain P, *et al.* Inter-organizational collaboration in the implementation of evidence-based practices among public agencies serving abused and neglected youth. *Adm Policy Ment Health* 2014;41:74-85.
90. Cooper JL. The federal case for school-based mental health services and supports. *J Am Acad Child Adolesc Psychiatry* 2008;47:4-8.
91. Livingston JD, Tugwell A, Korf-Uzan K, Cianfrone M, Coniglio C. Evaluation of a campaign to improve awareness and attitudes of young people towards mental health issues. *Soc Psychiatry Psychiatr Epidemiol* 2013;48:965-73.
92. Ball SJ, Youdell D. *Hidden Privatisation in Public Education*. London, England: Education International; 2007.
93. Stormont M, Reinke W, Herman K. Teachers' knowledge of evidence-based interventions and available school resources for children with emotional and behavioral problems. *J Behav Educ* 2011;20:138-47.
94. Kohen DE, Brooks-Gunn J, McCormick M, Graber JA. Concordance of maternal and teacher ratings of school and behavior problems in children of varying birth weights. *J Dev Behav Pediatr* 1997;18:295-303.
95. Dickinson E, Joyce J, Davies WH, Rhineland PH, Walters WS, Michelangelo B, *et al.* *Americans in Rome Music by Fellows of the American Academy in Rome*. New Rochelle, N.Y.: Bridge; 2008.
96. Nardi DA. Depression in school-aged children: Assessment and early intervention. *J Psychosoc Nurs Ment Health Serv* 2007;45:48-51.
97. Payne AA. Do predictors of the implementation quality of school-based prevention programs differ by program type? *Prev Sci* 2009;10:151-67.