Preventive Medicine Reports 39 (2024) 102654

Contents lists available at ScienceDirect

Preventive Medicine Reports

journal homepage: www.elsevier.com/locate/pmedr

Social support systems involved in suicide prevention and intervention among adolescents: A Delphi study in Shanghai

Hong Zheng [a,b,1], Hui Gao [c,1], Jiahui Li [d,1], Su Li [e], Liangliang Chen [a], Ziyan Li [b], Xuanxuan Chen [a], Yiting Sun [b], Chenyu Wang [a], Junsheng Liu [b,*], Jianlin Zhuang [c,*]

[a] Shanghai Changning Mental Health Center, Shanghai, 200335, China
[b] Shanghai Key Laboratory of Mental Health and Psychological Crisis Intervention, School of Psychology and Cognitive Science, East China Normal University, Shanghai, 200062, China
[c] Shanghai Changning District Center for Disease Control and Prevention, Shanghai, 200051, China
[d] Fengxian Hospital Affiliated with Anhui University of Science and Technology, Shanghai, 201499, China
[e] School of Journalism and Communication, Wuhan University, Wuhan Province, 430072, China

ARTICLE INFO

Keywords:
Adolescent
Delphi method
Expert consensus
Suicide prevention
Social support systems

ABSTRACT

The rotes of attempted and completed suicide among adolescents are increasing globally. Social support can help decrease the risk of adolescent suicide, but this aspect has been rarely studied in China. The present study aimed to use the Delphi methodology to establish a set of guidelines for the development of social support resources, with the goal of collectively reducing suicide risks among adolescents in Shanghai. We commenced the study in April 2021, established a research team, searched the keywords using Web of Science from 2016 to 2021 and ultimately designed a pre-evaluation index. Next, following Donabedian's Structure–Process-Outcome model, the research developed a questionnaire comprising 3 level-1, 12 level-2, and 73 level-3 indicators. Ten experts were enlisted to conduct three rounds of e-mail inquiries in order to finalize the indicator system, resulting in 2 level-1, 11 level-2, and 52 level-3 indicators, as well as expert consensus. Our findings indicate that the social support systems should include parents, schools, psychiatric hospitals, social organizations, and government departments, with the government sector being the most important ((M = 9.4). Furthermore, our study revealed that school counselors and psychologists play similar roles to psychiatrists within the interdisciplinary team (M ± S = 9.2 ± 1.1). As per the expert consensus, social support systems should strengthen government-led and interdisciplinary collaboration, prioritize suicide prevention in schools and encourage greater involvement from social organizations.

1. Introduction

The adolescent suicide rate has been increasing and is now the third leading cause of mortality in this age group globally (Hawton et al., 2012; Chen et al., 2018; Liu et al., 2019b; World Health Organization, 2021b). In China, suicide is the leading cause of death among individuals aged 15–34 years old (World Health Organization, 2021a). In particular, suicide mortality among children aged 10–14 years old in urban areas has sharply increased between 2006 and 2016, when compared to other age groups and areas. The data from the Death Surveillance System indicated that suicide rates in Shanghai declined between 2002 and 2008. However, there has been an increasing trend from 2009 to 2020, mainly due to notable increase in adolescent's suicides. Additionally, around 22 % of suicides were accompanied by depression (Qiao et al., 2022). This finding suggests a potential change in risk factors that requires further investigation in order to gain a comprehensive understanding of the evolving societal landscape. Therefore, it is crucial to identify areas that can effectively reduce adolescent suicide rates.

Interpersonal conflicts and substance abuse have previously been cited as precipitating factors for completed and attempted suicides in Western countries (Bridge et al., 2006). However, studies conducted in China suggest that a fast-paced social environment, family conflicts, intense school competition, relationship stressors, and the increasing

* Corresponding authors.
E-mail addresses: jsliu@psy.ecnu.edu.cn (J. Liu), zhuangjianlin208@126.com (J. Zhuang).
[1] These authors have contributed equally to this work and share first authorship.

https://doi.org/10.1016/j.pmedr.2024.102654
Received 27 May 2023; Received in revised form 7 February 2024; Accepted 9 February 2024
Available online 12 February 2024

incidence of mental disorders in adolescents may instead be the main reasons for the rising suicide rates among Chinese adolescents (Li et al., 2012; Zhang et al., 2012; Pan & Spittal, 2013). Acknowledging suicides as a significant problem, the World Health Organization (WHO) published "Preventing Suicide: A Global Imperative" and appealed for national suicide prevention strategies in 2014 (World Health Organization, 2014). Subsequently, countries prioritized suicide prevention as a crucial project for their government or other organizations, including the implementation of interdisciplinary teams, collaborating on screening, identification, and treatment for students exhibiting suicidal symptoms and mental disorders within educational institution s (Fazel et al., 2014; Collishaw, 2015; Breslin et al., 2020). Public health strategies for upstream prevention, risk recognition, and providing services to at-risk groups were proposed to reduce the incidence of suicidal behavior among adolescents (King et al., 2018).

The 2022 World Mental Health Report also called on all stakeholders to strengthen mental health provider systems, raise public awareness, and deploy effective interventions to lower mortality (World Health Organization, 2022). Current published studies exploring the correlative factors of adolescent suicide crises in China mostly used cross-sectional perspectives or theoretical research, but they have rarely looked at how to reduce suicide attempts and behaviors by reshaping the environment to enhance care for at-risk adolescents(Liu et al., 2018; Liu et al., 2019a; Liu et al., 2019c; Cheng et al., 2021; Xu et al., 2022). As such, we aimed to employ the Delphi methodology (Jorm, 2015)to provide guidance regarding the appropriate action for social support systems to identified a consensus for suicide prevention and intervention among adolescents in the city (Kelly et al., 2008; Cox et al., 2016).

2. Methods

This study follows the Declaration of Helsinki. In this study, we utilized the Delphi methodology, which involved a group of experts in the fields of adolescent mental health, crisis intervention, and public policy research. These experts independently rated various factors or measures and we collated and analyzed these ratings to arrive at into a consensus list of indexes. The experts drew upon their knowledge and experience to determine which indexes were likely to have a greater impact and be actionable (Linstone & Turoff, 1975). The responses from the experts were subsequently analyzed in each round of results, and feedback was provided. Based on this feedback, the experts decided which ratings to retain, modify, or delete until a consistent and reliable consensus was reached. The research followed guidelines for the protection of human subjects, ensuring safety and privacy.

2.1. Experimental procedures

The study commenced in April 2021 and consisted of three distinct steps, according to the guidelines for using the Delphi methodology in healthcare research (Nasa et al., 2021). (1) Identification of target adolescents and risk factors: First, a research team was established, with each participant having more than seven years of relevant expertise in psychiatry, social work, psychotherapy, or general medicine. We searched the electronic databases of Web of Science from April 2016 to April 2021 using the following keywords: "youth*" AND "suicid*" AND "prevention*" or "intervention*". A total of 758 articles were retrieved. The pre-evaluation index was designed by searching literature and the Shanghai Crisis Intervention Mechanism Action Plan (GWIII-30) standard (2011–2013). Next, Donabedian's Structure–Process–Outcome model was used (Donabedian, 1966) to assess the quality of medically related services. In our study, the "Structure" component consisted of service supports such as policy, people, plans, and resources. "Process" referred to the type of services provided, including the amount and quality. "Outcome" indicated the impact of the services provided and the necessary changes to the services. Finally, the team developed a predesigned questionnaire consisting of 3 level-1, 12 level-2, and 73 level-3 indexes. (2) The selection criteria for were as follows: the expert had at least 10 years of experience in research or crisis intervention related to adolescent suicide, held a medical degree or senior professional title, and provided informed consent to participate in the study. All experts were informed of the study's purpose and voluntarily participated in more than three rounds of inquiries via -mail. (3) The Delphi process took place from September 2021 to February 2022 Through anonymous consultation, the team sent the list of risk factors and the initial index system to the experts via This process ensured iteration, anonymity, and controlled feedback. After each round, the team analyzed the results and provided feedback to the experts. The experts then had the opportunity to change or maintain each index if they agreed, until a consensus was reached. The consensus was based on agreeable opinions that met the criteria for concluding the process. Finally, an index system and consensus were formed based on expert opinions and statistical analyses (Fig. 1).

2.2. Screening and sorting

The five-point Likert scale was used to quantify two pre-defined metrics: importance and availability. Each metric can be scored from 1 to 5, with "1″ meaning extremely unimportant (for the importance) or unavailable (for the availability) and "5" meaning extremely important (for the importance) or available (for the availability). A total score was derived using the sum of these two scores. Then, four indicators, including mean (M), standard deviation (S), coefficient of variation (CVj), and total score, were calculated for each index to respectively reflect its importance and availability, difference, agreeability between experts, and impact. These indexes were further screened using the cut-off value method (Palinkas et al., 2011). If the mean and full score frequency were positive indicators, then the cut-off value=(X – S), where X is the mean and S is the standard deviation. If the score was greater than the boundary value, the index was retained. If CVj was a negative indicator, then the cut-off value=(X + S). If the score was less than the boundary value, the index could remain in the system. If the three indicators (M, CVj, and full score rate) met 1–2 exclusion criteria, there would be a discussion to determine whether the index would be retained in the list. Using the mean importance and priority of each index, they were ranked in relation to each other.

2.3. Closing criteria

Generally, the essence of Delphi surveys is an iterative process with controlled feedback, and the criteria for stopping rounds should be identified *a priori* (Green et al., 1999). In our study, the stability was used to determine the endpoint, which was defined as the consistency of responses between successive rounds, including the following three criteria (Diamond et al., 2014): (1) The response rate: The reply rate of the experts providing consultation, which indicates the degree of attention provided by the experts to the topic. (2) The authority coefficient (Cr): Cr = judgment coefficient (Ca) + familiarity (Cs)/2; Cr > 0.7 indicates that the judgement of expert's advice is high. (3) Agreeability of opinions: The CVj and the W test were used to determine the agreeability of opinions. CVj < 0.2 indicates that the degree of agreement among the advice of the experts is consistent. The W test was used to assess the consistency of the expert opinions. In brief, the stability criteria consist of positive coefficient > 90 %, Cr > 0.7, CVj < 0.2, and the W test $p > 0.05$.

3. Results

3.1. Demographic statistics

The mean age of the 10 experts was 43.8 years old, with an average of 19 years of working experience (Table 1).

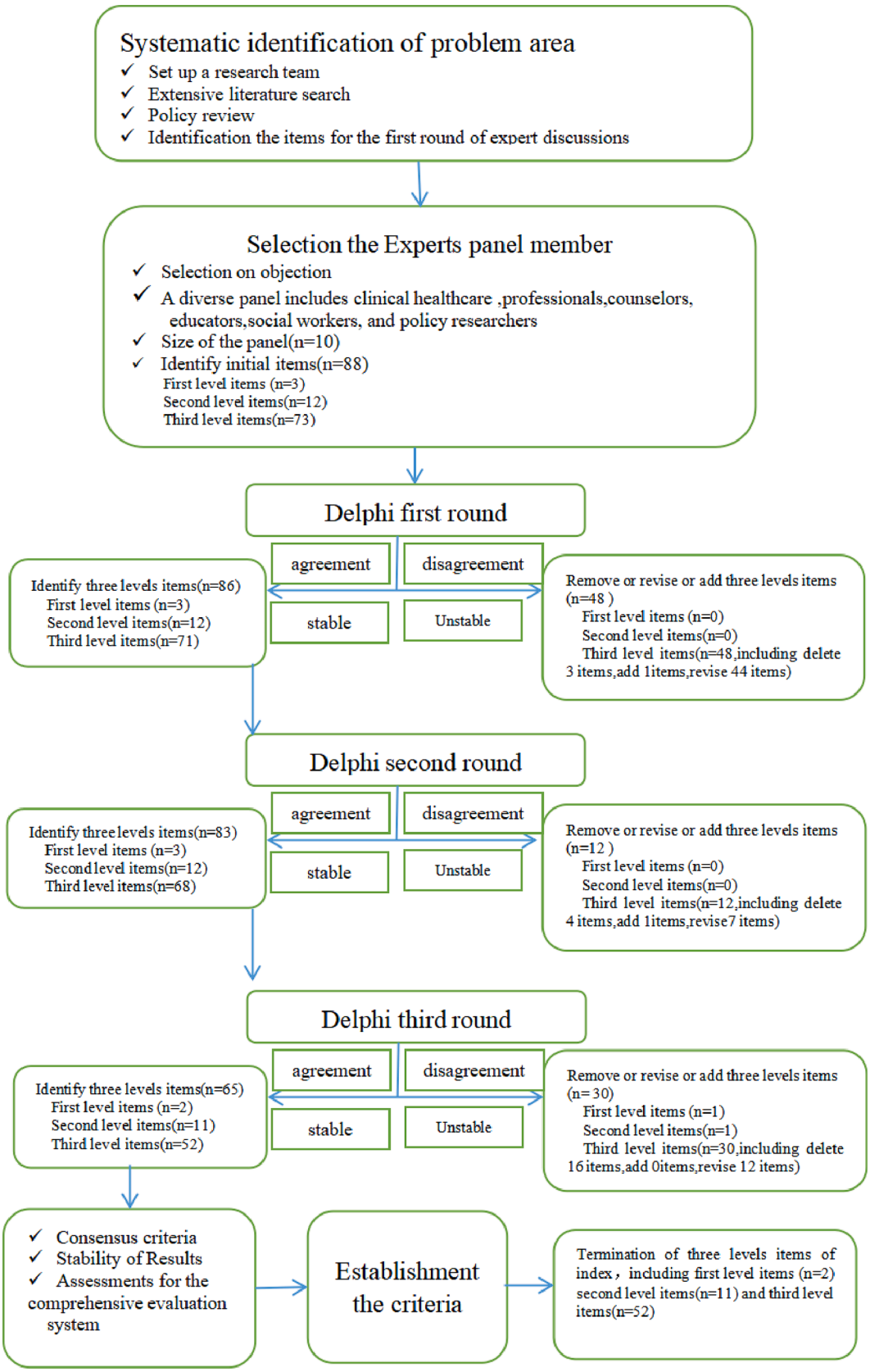

Fig. 1. Delphi process flow diagram.

Table 1
The descriptive statistics of the included experts in China, 2022.

Characteristic		Total$n$=10	%
Age (years)			
	30–39	4	40
	≥40	6	60
Expert			
	Psychological crisis practitioners	4	40
	Academics in adolescent mental health	3	30
	Policy decision makers	3	30
Professional Field			
	Pediatric Psychiatry	2	20
	Crisis Public Health	2	20
	Adolescent Social Work	2	20
	Adolescent Psychological Consultation	2	20
	Educational and Developmental Psychology Research	1	10
	Public Policy Research	1	10

3.2. Consistency evaluation

After three rounds of inquiries, questionnaires were sent out to the experts in each round, and all 10 valid questionnaires were recovered. The response rate of the three rounds of expert consultation was 100 % (10/10). The Cr value was 0.87 (>0.8) (familiarity = 0.820, judgment coefficient = 0.920), indicating that the expert opinions had high authority.

The CVj (total score) was 0.118, which is less than 0.2. As demonstrated (Table S1-1 and S1-2), all W coefficients in the third round were smaller than 0.2, which may be due to the large number of indexes included. However, no significant difference was reported, indicating high consistency regarding experts' opinions. Therefore, the stability criteria were met, and the Delphi process was terminated.

3.3. Index screenings

We began with 88 initial indexes, comprising of 3 level-1, 12 level-2, and 73 level-3 indexes. Following three rounds of inquiry and revision (Table S2), we ultimately arrived at 65 indexes, consisting of 2 level-1, 11 level-2, and 52 level-3 indexes (Table 2).

Our findings revealed the "Services guarantee"(M = 9.4) was deemed more significant than "Services implementation"(M = 9.2) in the level-1 indexes. Furthermore, in the level-2 indexes "Sustainable development", "Policy support" and "Government" support ranked as the top three factors (M = 9.3). This indicates that the study identified five stakeholders in the social support systems, including parents, social organizations, schools, hospitals, and government sectors (M = 9.1 < 9.2 < 9.3 = 9.3 < 9.4, respectively) in the level-3 indexes. Specifically, the government sector was found to be the most important while the importance of schools and hospitals are equally (Table 3). Another finding from our study is school counsellors and psychologists hold same importance as psychiatrists in the interdisciplinary team (M = 9.2) (Table 3).

4. Discussion

Previous studies have suggested that early intervention is crucial in preventing adolescent suicide for those experiencing suicidal thoughts, and that this necessitates the implementation of coordinated social interventions (O'Connor & Nock, 2014). Furthermore, another study has also advocated for the adoption of public health strategies involving brief and effective interventions for adolescents in the midst of a suicidal crisis (Murata et al., 2021). While these studies offer valuable insights, they encounter numerous challenges within the context of China. Presently, schools, psychiatric hospitals, and social organizations operate independently, making it difficult to address crises in a timely and collaborative manner.

This study utilized the Delphi methodology and invited 10 experts to conduct three rounds of e-mail inquiries in order to finalize a set of scientific, specific, and practical indicator systems with 65 indexes. The aim was to develop cooperative guidelines and address issues such as who should be involved, how to proceed, and how to foster cooperation in the social support system for aiding suicidal adolescents in Chinese cities. This study represents the first Delphi consensus study conducted in China to guide the social support system in preventing suicides among urban adolescents. It offers effective strategies and provides quantified and enforceable criteria as well as advice on the structure and manpower required for the multidisciplinary team, equipment, and platforms.

There have been controversies regarding the core role in systems for adolescent crisis intervention. Some studies believe that pediatricians or psychiatrists are more important (Breslin et al., 2020; Aalsma et al., 2022), while others emphasize the significance of school counselors (Georgina et al., 2016; Walsh M et al., 2022). In our study, school counselors and psychologists are considered equally important as psychiatrists in the interdisciplinary team. This may be because school counsellors have the opportunity to build trust relationships and positively impact teenagers in crisis situations as soon as possible.

Our study utilized the Delphi methodology to derive an expert consensus focused on social systemic changes, clearly defined and classified risks. It covered multiple indexes ranging from individual to group, including policy/government/material support, funding input, organizational guarantee, and service quality, among others. The research not only provided applicable strategies for special mental health areas where prospective studies were not feasible, but also avoided compromising the privacy of adolescents at risk of suicide.

Nevertheless, there are some limitations to our research that future study should address. While the inclusion of advice from 10 experts across six relevant fields met the requirements of the study, we believe that consulting with additional experts would provide valuable insights. Furthermore, the guidelines and consensus we summarized for social support systems may be more applicable to urban areas and may not be sufficient for rural areas in China.

In moving forward, we propose the adoption of a unified consensus and practical standards. This can be achieved through enhanced government-led and interdisciplinary cooperation. It is crucial to develop preventive, identification, and intervention measures, as well as to encourage the participation of social organizations, such as nonprofit organizations and educational institutions.

5. Availability of data and materials

The authors declare that the data supporting this study are available within the paper and its Supplementary Information File. All other data will be available from the corresponding author upon reasonable request.

6. Ethical policy

There are no ethical/legal conflicts involved in the article. Informed consent was obtained from all subjects involved in the study. Written informed consent has been obtained from the experts to publish this paper. The studies involving human participants were reviewed and approved by the Medical Ethics Committee of Changning Mental Health Center Affiliated to East China Normal University(M202035).

7. Disclosure statement

The research has no known competing financial interest or personal relationships. This work was supported by the Research Project of Changning District Science and Technology Committee (Grant No.: CNKW2020Z05 and No.: CNKW2022Y37), the Medical Master's and

Table 2
The descriptive statistics about the social support systems indexes involved in the suicidal crisis prevention and intervention among middle-school students in China, 2022.

Level-1 indexes	M	S	CVj	Full marks rate (%)	Level-2 indexes	M	S	CVj	Full marks rate (%)	Level-3 indexes	M	S	CVj	Full marks rate (%)
Services guarantee	9.4	0.9	0.1	50	Policy support	9.3	0.9	0.1	50	Legislative support	8.9	1.9	0.2	50
										Regular meetings	9.0	1.2	0.1	50
										Draw up policies	9.2	1.0	0.1	50
										Draw up plans	9.2	1.3	0.1	70
					Government support	9.3	0.8	0.1	40	Definite leading sectors	9.3	1.2	0.1	70
										Definite coordination sectors	8.9	1.2	0.1	40
										Proprietary institutions and platforms	9.3	0.8	0.1	40
										Responsibilities and functions	9.1	1.3	0.1	40
										Develop programs	9.5	0.7	0.1	50
					Team support	9.2	0.9	0.1	40	Number of teams	8.9	0.9	0.1	30
										Number of psychiatrists in the team	9.2	1.1	0.1	60
										Number of school counselors and psychologists in the team	9.2	1.1	0.1	60
										Increase numbers annually	9.2	1.2	0.1	50
					Material support	9.2	0.9	0.1	40	Number of new organizations	9.4	0.8	0.1	50
										Increasing hotline	9.0	1.2	0.1	40
										Numbers of professional equipment per person	9.2	1.0	0.1	50
					Funding input	9.0	0.9	0.105	30	Total annual funding for suicidal crisis prevention and intervention	9.4	0.7	0.1	50
										Annual funding for suicidal crisis prevention and intervention in school	9.0	0.9	0.1	40
										New annual funding for suicidal crisis prevention and intervention in school from the health sector	9.0	1.1	0.1	40
										New annual funding for suicidal crisis prevention and intervention in school from the education sector	9.1	0.9	0.1	40
										Increase in funding annually	9.0	0.8	0.1	30
Services Implementation	9.2	0.8	0.1	40	Service content	9.1	0.9	0.1	40	Coverage rate no less than 95 %	9.3	0.8	0.1	40
										Ratio of the establishment of psychological files for students with informed consent is at least 90 %	8.7	1.2	0.1	30
										The psychological census of students with informed consent is at least 2 times/person/year	8.7	1.	0.2	40
										Times for having individual counseling sessions per students in crisis is at least 6 times	9.0	11	0.1	40
										Times for having group counseling sessions per student in crisis is at least 4 times/person	9.0	1.1	0.1	40
										Number of students receiving psychological training per year	9.2	0.8	0.1	40
										Number of parents receiving psychological training per year	8.9	1.2	0.1	40
										Number of school counsellors receiving psychology training per year	9.0	0.43	0.1	30

(*continued on next page*)

Table 2 (*continued*)

Level-1 indexes	M	S	CVj	Full marks rate (%)	Level-2 indexes	M	S	CVj	Full marks rate (%)	Level-3 indexes	M	S	CVj	Full marks rate (%)
										Number of other teachers receiving psychology training per year	8.8	1.0	0.1	30
										Number of referrals for students in crisis is at least 1	9.2	1.0	0.1	50
										Number of students in crisis receiving interventions is at least 1	9.1	1.1	0.1	50
										Students having mental disorders receive timely treatment and rehabilitation guidance at least 1 time/person/month	8.8	1.1	0.1	30
					Cost expenses	9.0	1.1	0.1	40	Total annual funding expenditures	9.0	1.0	0.1	40
										Annual funding expenditures for health education and crisis guidance	9.0	1.1	0.1	40
										Annual funding expenditures for team training and psychological supervision	9.1	0.9	0.1	40
					Sustainable development	9.3	1.0	0.1	50	Days of joining psychological training annually	9.2	0.8	0.1	40
										Days of psychological supervision annually	9.3	0.7	0.1	40
					Intervention outcome	9.2	0.8	0.1	30	Crisis intervention response rate is at least 95 %	9.5	0.7	0.01	50
										Timely intervention rate within 2 h	9.2	1.0	0.1	50
										Rate of timely prevention of student suicide and self-injury is at least 90 %	8.8	1.0	0.1	30
										The participation rate of student psychological census is at least 90 % annually	9.4	0.8	0.1	50
										The rate of regular consultation of students with psychological disorders is at least 80 %	9.2	0.7	0.1	30
										The rate of cooperatively dealing with student-crisis is at least 95 %	8.8	1.1	0.1	30
										The rate of students with mental disorders receiving rehabilitation guidance is at least 80 %	8.8	1.2	0.1	30
					Satisfaction rate	9.0	0.8	0.01	20	Satisfaction rate of teams	8.7	1.2	0.1	30
										Satisfaction rate of students	8.9	0.9	0.1	30
										Satisfaction rate of patients	8.8	0.858	0.1	20
										Satisfaction rate of school counsellors	9.0	0.9	0.1	40
					Change of parents' and teachers' awareness and behaviors	9.1	1	0.1	40	Awareness rate of knowledge of mental disorders	9.1	1.0	0.1	30
										Awareness rate of team services	9.3	0.8	0.1	50
										Using team service times annually	8.8	1.3	0.2	40

Results expressed as mean ± standard deviation for continuous variables. M = mean, S = standard deviation, CVj = coefficient of variation.

Doctoral Innovation Talent Base Project of Changning District (RCJD2022S07), the Shanghai Municipal Health Commission project (Grant No.: 201940491 and No.: 20204Y0499), and the Changning District Health of Medical Specialty (Grant No.: 20232005).

CRediT authorship contribution statement

Hong Zheng: Writing – original draft, Funding acquisition, Conceptualization. **Hui Gao:** Methodology, Formal analysis. **Jiahui Li:** Writing – original draft. **Su Li:** Software. **Liang-liang Chen:** Validation,

Table 3
The descriptive statistics of the top three ranked indexes among five stakeholders in the social support systems in China, 2022.

Category (M)	Level-3 Indexes	M ± S	Rank
Parents 9.1	Awareness rate of team services	9.3 ± 0.8	1
	Awareness rate of knowledge of mental disorders	9.1 ± 1.0	2
	Annual number of parents receiving psychological training	8.9 ± 1.2	3
Schools 9.3	Crisis intervention response rate is at least 95 %	9.5 ± 0.7	1
	Coverage rate is at least 95 %	9.3 ± 0.8	2
	Rate of regular consultation of students with psychological disorders is at least 80 %	9.2 ± 0.7	3
Psychiatric Hospitals 9.3	Intervention response rate is at least 95 %	9.5 ± 0.7	1
	Rate of regular consultation of students with psychological disorders is at least 80 %	9.2 ± 0.7	2
	Disposal timely rate is within 2 h per time	9.2 ± 1.0	3
	Students in crisis are referred at least 1 time	9.2 ± 1.0	3
Organizations 9.2	Intervention response rate is at least 95 %	9.5 ± 0.7	1
	Disposal timely rate is within 2 h	9.2 ± 1.0	2
	Rate of cooperatively dealing with students in crisis is at least 95 %	8.8 ± 1.1	3
Government sectors 9.4	Develop programs	9.5 ± 0.7	1
	Total annual funding for suicidal crisis prevention and intervention	9.4 ± 0.7	2
	Number of new organizations	9.4 ± 0.8	3

Investigation. **Zi-yan Li:** Validation, Investigation. **Xuan-xuan Chen:** Validation, Investigation. **Yi-ting Sun:** Validation, Investigation. **Chen-yu Wang:** Validation, Investigation. **Jun-sheng Liu:** Writing – review & editing, Project administration. **Jian-lin Zhuang:** Writing – review & editing, Resources.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.pmedr.2024.102654.

References

Aalsma, M., Keys, J., Ferrin, S., Shan, M., Garbuz, T., Scott, T., Adams, Z., Hulvershorn, L., Downs, S., 2022. Adolescent suicide assessment and management in primary care. BMC Pediatr. 22, 389. https://doi.org/10.1186/s12887-022-03454-4.

Breslin, K., Balaban, J., Shubkin, C.D., 2020. Adolescent suicide: what can pediatricians do? Curr. Opin. Pediatr. 32, 595–600. https://doi.org/10.1097/mop.0000000000000916.

Bridge, J.A., Goldstein, T.R., Brent, D.A., 2006. Adolescent suicide and suicidal behavior. J. Child Psychol. Psychiatry 47, 372–394. https://doi.org/10.1111/j.1469-7610.2006.01615.x.

Chen, R., An, J., Ou, J., 2018. Suicidal behaviour among children and adolescents in China. Lancet. Child Adolesc. Health 2, 551–553. https://doi.org/10.1016/s2352-4642(18)30170-6.

Cheng, Q., Zhang, X., Lui, C., Yip, P.S.F., 2021. Suicide Research in Mainland China, Hong Kong, and Macau Over Three Decades. Crisis 42, 455–464. https://doi.org/10.1027/0227-5910/a000743.

Collishaw, S., 2015. Annual research review: Secular trends in child and adolescent mental health. J. Child Psychol. Psychia. All. Discipl. 56, 370–393. https://doi.org/10.1111/jcpp.12372.

Cox, G.R., Bailey, E., Jorm, A.F., Reavley, N.J., Templer, K., Parker, A., Rickwood, D., Bhar, S., Robinson, J., 2016. Development of suicide postvention guidelines for secondary schools: a Delphi study. BMC Public Health 16, 180. https://doi.org/10.1186/s12889-016-2822-6.

Diamond, I.R., Grant, R.C., Feldman, B.M., Pencharz, P.B., Ling, S.C., Moore, A.M., Wales, P.W., 2014. Defining consensus: a systematic review recommends methodologic criteria for reporting of Delphi studies. J. Clin. Epidemiol. 67, 401–409. https://doi.org/10.1016/j.jclinepi.2013.12.002.

Donabedian, A., 1966. Evaluating the quality of medical care. Milbank Mem. Fund Q. 44 (Suppl), 166–206.

Fazel, M., Hoagwood, K., Stephan, S., Ford, T., 2014. Mental health interventions in schools 1: Mental health interventions in schools in high-income countries. Lancet Psychiatry 1, 377–387. https://doi.org/10.1016/s2215-0366(14)70312-8.

Green, B., Jones, M., Hughes, D., Williams, A., 1999. Applying the Delphi technique in a study of GPs' information requirements. Health Soc. Care Community 7, 198–205. https://doi.org/10.1046/j.1365-2524.1999.00176.x.

Hawton, K., Saunders, K.E., O'connor, R.C., 2012. Self-harm and suicide in adolescents. Lancet (london, England) 379, 2373–2382. https://doi.org/10.1016/s0140-6736(12)60322-5.

Jorm, A.F., 2015. Using the Delphi expert consensus method in mental health research. Aust. N. Z. J. Psychiatry 49, 887–897. https://doi.org/10.1177/0004867415600891.

Kelly, C.M., Jorm, A.F., Kitchener, B.A., Langlands, R.L., 2008. Development of mental health first aid guidelines for suicidal ideation and behaviour: a Delphi study. BMC Psychiatry 8, 17. https://doi.org/10.1186/1471-244x-8-17.

King, C.A., Arango, A., Ewell Foster, C., 2018. Emerging trends in adolescent suicide prevention research. Curr. Opin. Psychol. 22, 89–94. https://doi.org/10.1016/j.copsyc.2017.08.037.

Li, D., Zhang, W., Li, X., Li, N., Ye, B., 2012. Gratitude and suicidal ideation and suicide attempts among Chinese adolescents: direct, mediated, and moderated effects. J. Adolesc. 35, 55–66. https://doi.org/10.1016/j.adolescence.2011.06.005.

Linstone, H. A., & Turoff, M. (1975). The Delphi Method: Techniques and Applications. https://web.njit.edu/~turoff/pubs/delphibook/ch1.html.

Liu, Z.Z., Chen, H., Bo, Q.G., Chen, R.H., Li, F.W., Lv, L., Jia, C.X., Liu, X., 2018. Psychological and behavioral characteristics of suicide attempts and non-suicidal self-injury in Chinese adolescents. J. Affect. Disord. 226, 287–293. https://doi.org/10.1016/j.jad.2017.10.010.

Liu, X.C., Chen, H., Liu, Z.Z., Wang, J.Y., Jia, C.X., 2019b. Prevalence of suicidal behaviour and associated factors in a large sample of Chinese adolescents. Epidemiol. Psychiatr. Sci. 28, 280–289. https://doi.org/10.1017/s2045796017000488.

Liu, Z. Z., Wang, X. T., Liu, X. C., Wang, Z. Y., An, D., & Jia, C. X. (2019c). [Non-suicidal self-injury and exposure to suicidal behaviors among Chinese adolescents: a longitudinal study]. *Zhonghua liu xing bing xue za zhi = Zhonghua liuxingbingxue zazhi*, 40, 1573-1577. Doi: 10.3760/cma.j.issn.0254-6450.2019.12.013.

Liu, B.P., Wang, X.T., Liu, Z.Z., Wang, Z.Y., Liu, X., Jia, C.X., 2019a. Stressful life events, insomnia and suicidality in a large sample of Chinese adolescents. J. Affect. Disord. 249, 404–409. https://doi.org/10.1016/j.jad.2019.02.047.

Murata, S., Rezeppa, T., Thoma, B., Marengo, L., Krancevich, K., Chiyka, E., Hayes, B., Goodfriend, E., Deal, M., Zhong, Y., Brummit, B., Coury, T., Riston, S., Brent, D.A., Melhem, N.M., 2021. The psychiatric sequelae of the COVID-19 pandemic in adolescents, adults, and health care workers. Depress. Anxiety 38, 233–246. https://doi.org/10.1002/da.23120.

Nasa, P., Jain, R., Juneja, D., 2021. Delphi methodology in healthcare research: How to decide its appropriateness. World J. Methodol. 11, 116–129. https://doi.org/10.5662/wjm.v11.i4.116.

O'connor, R.C., Nock, M.K., 2014. The psychology of suicidal behaviour. Lancet Psychiatry 1, 73–85. https://doi.org/10.1016/s2215-0366(14)70222-6.

Palinkas, L.A., Aarons, G.A., Horwitz, S., Chamberlain, P., Hurlburt, M., Landsverk, J., 2011. Mixed method designs in implementation research. Adm. Policy Ment. Health 38, 44–53. https://doi.org/10.1007/s10488-010-0314-z.

Pan, S.W., Spittal, P.M., 2013. Health effects of perceived racial and religious bullying among urban adolescents in China: a cross-sectional national study. Glob. Public Health 8, 685–697. https://doi.org/10.1080/17441692.2013.799218.

Qiao, J., Xia, T., Fang, B., Cai, R., Chen, L., Qian, N., Yu, H., Jin, S., Wang, C., Fu, C., 2022. The reversing trend in suicide rates in Shanghai, China, from 2002 to 2020. J. Affect. Disord. 308, 147–154. https://doi.org/10.1016/j.jad.2022.04.056.

World Health Organization, 2022. World mental health report: transforming mental health for all: executive summary. In World Mental Health Report: Transforming Mental Health for All: Executive Summary.

World Health Organization (2014). Preventing suicide: A global imperative.

World Health Organization (2021a). Live life: an implementation guide for suicide prevention in countries.

World Health Organization (2021b). Suicide worldwide in 2019: global health estimates.

Xu, H., Jiang, Z., Li, S., Zhang, X., Xu, S., Wan, Y., Tao, F., 2022. Differences in Influencing Factors Between Non-suicidal Self-Injury and Suicide Attempts in Chinese Adolescents: The Role of Gender. Front. Psych. 13, 870864 https://doi.org/10.3389/fpsyt.2022.870864.