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Monographic issue

Local-Level Knowledge of School Safety Plans
in the Municipality of Peñaflor, Chile

University of Oviedo – Department of Medicine
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Letter from the editor

The Emergency and Disaster Reports is a journal edited by the Unit for Research in Emergency and Disaster of the Department of Medicine of the University of Oviedo aimed to introduce research papers, monographic reviews and technical reports related to the fields of Medicine and Public Health in the contexts of emergency and disaster. Both situations are events that can deeply affect the health, the economy, the environment and the development of the affected populations.

The topics covered by the journal include a wide range of issues related to the different dimensions of the phenomena of emergency and disaster, ranging from the study of the risk factors, patterns of frequency and distribution, characteristics, impacts, prevention, preparedness, mitigation, response, humanitarian aid, standards of intervention, operative research, recovery, rehabilitation, resilience and policies, strategies and actions to address these phenomena from a risk reduction approach. In the last thirty years has been substantial progress in the above-mentioned areas in part thanks to a better scientific knowledge of the subject. The aim of the journal is to contribute to this progress facilitating the dissemination of the results of research in this field.

This monographic issue explores the degree of knowledge of school safety plans in the educational communities of the Peñaflor commune in Chile.

Prof. Pedro Arcos

Editor, *Emergency and Disaster Reports*
Unit for Research in Emergency and Disaster
Department of Medicine. University of Oviedo
Campus del Cristo 33006 Oviedo –Spain
www.uniovi.net/uied

ORIGINAL RESEARCH

Local-Level Knowledge of School Safety Plans in the Municipality of Peñaflor, Chile

Jorquera Cabello E, Arcos González P.

ABSTRACT

Background: Chile's geographical exposure to natural hazards and climate-related risks necessitates robust preparedness strategies within educational settings. The Comprehensive School Safety Plan (Plan Integral de Seguridad Escolar, PISE) constitutes the national policy instrument aimed at promoting prevention, preparedness, and response capacities in schools; however, evidence regarding its local-level implementation remains limited.

Objective: To assess the level of knowledge, perceived importance, and implementation of school safety plans within educational communities in the commune of Peñaflor, Chile.

Methods: A mixed-methods, exploratory field study was conducted. Quantitative data were collected through structured surveys administered to 827 participants, including students, parents or legal guardians, teachers, and school administrators. Qualitative data were obtained through semi-structured interviews with institutional actors and experts in school safety and disaster risk management. Data were analyzed using descriptive statistics and thematic analysis.

Results: Only 37% of participants confirmed knowledge of the existence of an emergency plan in their educational establishment. Students and parents demonstrated significantly lower awareness compared to teachers and administrators. Despite this, 89% of respondents considered emergency preparedness essential and supported the integration of school safety content into the curriculum.

Conclusions: Substantial gaps persist between the formal existence of school safety plans and their effective dissemination and internalization within school communities. Strengthening governance, evaluation mechanisms, curricular integration, and community participation is essential to enhance resilience in educational settings.

Keywords: School safety; Disaster risk management; Emergency preparedness; Risk prevention; Educational institutions; Chile

INTRODUCTION

The Comprehensive School Safety Plan (Plan Integral de Seguridad Escolar, PISE) currently implemented in Chile is the result of the transformation of an earlier initiative known as Operation DEYSE, conceived in 1977 within the framework of the National Emergency Plan approved by the Ministry of the Interior. At that time, the Ministry of Education (MINEDUC) was assigned responsibility for its implementation.

Before 1977, there was no national requirement obligating educational establishments in Chile to adopt formal programs for managing accidents or emergency situations occurring within school premises. Consequently, the existence and scope of internal emergency protocols depended largely on the discretion of each institution, revealing the absence of a standardized governmental framework for risk management in educational settings.

In 2001, Operation DEYSE was formally repealed and replaced by the Comprehensive School Safety Plan through Exempt Resolution No. 51 issued by the Ministry of Education, giving rise to the current PISE framework (1). The restructured program aimed to promote the development of a “culture of prevention” through its systematic implementation in educational institutions. Subsequently, in 2004, the plan was reinforced by the Francisca Cooper Strategy, named in memory of a teacher who lost her life during an earthquake and tsunami. This strategy included zonal evacuation drills and training workshops for school safety monitors before being discontinued and reverting to the PISE denomination.

The Comprehensive School Safety Plan is conceived as an integrated instrument that combines multiple dimensions of safety and is intended to be applied by the entire educational community during emergency situations. It was developed by the National Emergency Office of the Ministry of the Interior and Public Security (ONEMI), taking into account Chile’s geographical characteristics and the interaction between natural and anthropogenic risk factors.

Chile is located within the Pacific Ring of Fire, along the western margin of the South American Plate, where the Nazca and Antarctic tectonic plates converge, generating frequent subduction-related seismic activity. In addition, accelerated urban expansion has increased population density, promoted development in risk-prone areas such as coastal zones and hillsides, and contributed to infrastructure deterioration, growing dependence on critical services, and heightened exposure to climate-related hazards.

Although Chile is not a major global contributor to greenhouse gas emissions, its geographical and climatic exposure makes it particularly vulnerable to the impacts of climate change. National analyses indicate that climate-related vulnerability stems largely from development models that prioritize economic growth over environmental sustainability, resulting in land-use change and increased environmental degradation (2). Consequently, adapting infrastructure and strengthening local capacities to address extreme climatic events have become national priorities.

Within this context, comprehensive risk management has been defined as a complex social process involving the planning, implementation, and evaluation of policies, strategies,

instruments, and measures aimed at preventing, reducing, anticipating, and controlling the adverse effects of hazardous phenomena on populations, infrastructure, services, and the environment (3). This approach allows for the analysis of emergencies and disasters throughout their entire cycle—before, during, and after their occurrence—and contributes to the development of resilience.

It is essential to distinguish conceptually between emergencies and disasters. An emergency is understood as a temporary, acute, and serious disruption of normal activities that requires immediate response and institutional intervention (3). A disaster, by contrast, represents the escalation of an emergency beyond the coping capacity of the affected community, thereby necessitating assistance from higher administrative or governmental levels (3).

At the international level, disaster risk reduction policies have been strongly influenced by the Hyogo Framework for Action (2005–2015), which sought to significantly reduce disaster-related losses by strengthening resilience among nations and communities (4). Although the framework did not establish binding obligations for educational institutions, it emphasized the importance of incorporating disaster risk reduction concepts into formal education systems.

These principles were subsequently reinforced by the Sendai Framework for Disaster Risk Reduction (2015–2030), aligned with the United Nations 2030 Agenda for Sustainable Development (5). The Sendai Framework recognizes States as the primary actors responsible for safeguarding populations while emphasizing shared responsibility among governments, the education sector, civil society, experts, and local communities. Among its priorities is the integration of disaster risk knowledge—including prevention, preparedness, response, and recovery—into both formal and non-formal education (5).

Despite Chile's ratification of these international frameworks and the existence of a national civil protection system, significant gaps persist in the implementation and monitoring of school safety measures. In particular, there is a lack of standardized management indicators to assess compliance with and effectiveness of the Comprehensive School Safety Plan, as well as limited institutional accountability mechanisms.

Educational institutions constitute central spaces for children and adolescents, where academic learning, socialization, and value formation take place. Ensuring their physical and psychological safety is therefore a fundamental public responsibility and a key condition for effective educational processes (6). Beyond academic instruction, schools play a critical role in preparing individuals to anticipate, respond to, and recover from emergencies and disasters.

According to the Chilean Constitution, the State has the obligation to safeguard national security, protect the population, and ensure equal opportunities for participation in public life (7). The formal approval of the Comprehensive School Safety Plan through Exempt Resolution No. 2515 reflects this mandate and establishes a framework for its dissemination from national authorities to regional and local educational systems.

However, the absence of systematic evaluation mechanisms raises questions regarding the effectiveness of PISE implementation at the local level. Therefore, this study aims to assess how the Comprehensive School Safety Plan is understood and applied within educational communities, focusing specifically on the commune of Peñaflor, Chile. Through field-based

research involving surveys and interviews, the study evaluates levels of knowledge among students, teachers, parents, and school administrators, generating empirical evidence to inform future policy development and institutional practice.

MATERIALS AND METHODS

Study Design

An exploratory field study with a mixed-methods approach was conducted, integrating quantitative and qualitative techniques to obtain a comprehensive understanding of local knowledge regarding school safety plans. The methodological design was guided by principles of systematic and empirical research as defined in social science methodology (8).

Type of Research

According to the source of information, the study corresponds to field research, as primary data were collected directly from participants in their natural educational environment, without manipulation of variables (9). This approach is particularly suitable for assessing knowledge, perceptions, and practices related to the Comprehensive School Safety Plan (PISE), as these elements can only be reliably obtained through direct interaction with school communities.

From an analytical standpoint, the study is exploratory, given the limited availability of empirical evidence on the local-level implementation and awareness of PISE in Chilean educational settings.

Study Population

The study population comprised the educational community of the commune of Peñaflor, Chile, including all educational establishments regardless of their administrative dependency. Consequently, public, private, and state-subsidized private schools were included. The target population consisted of school administrators (principals), teachers, students, and parents or legal guardians.

Demographic and contextual data for the commune were drawn from official sources, including the National Population and Housing Census (10) and municipal planning instruments (11,12).

Sampling Strategy

A probabilistic sampling strategy was employed to ensure representativeness and minimize selection bias (8). Using a 6% margin of error and a 94% confidence level, a final sample of 827 participants was obtained, distributed as follows: 264 students, 264 parents or legal guardians, 242 teachers, and 57 school administrators.

Participants were selected randomly from educational establishments representing all financing categories, without exclusion criteria other than belonging to the school community of Peñaflor.

Data Collection Instruments

Two data collection instruments were applied: (i) Structured surveys, consisting of closed and semi-open questions designed to assess awareness of the existence, content, and perceived importance of school safety plans, and (ii) Semi-structured interviews, conducted with institutional actors and experts in school safety, emergency management, and disaster risk reduction. Surveys were administered in person to facilitate comprehension and increase response rates. Interviews followed a flexible guide to ensure comparability while allowing participants to elaborate on relevant issues.

Data Analysis

Quantitative data were processed using descriptive statistical analysis, including frequencies and percentages, and were presented in tables and graphs for comparative interpretation. Qualitative data were transcribed verbatim and analyzed thematically, identifying recurring concepts related to prevention culture, institutional responsibility, training, and evaluation mechanisms.

Ethical Considerations

The study adhered to ethical standards for educational and social research. Participation was voluntary, informed consent was obtained from all adult participants, and parental consent was secured for minors. Confidentiality and anonymity were strictly maintained throughout the research process.

RESULTS

Sample Characteristics

A total of 827 individuals participated in the study. Among students, 44% were male and 56% female, while among adults 32% were male and 68% female. Regarding the type of educational establishment, 53.4% of students attended public municipal schools, 39.3% attended state-subsidized private schools, and 7.3% attended private schools, reflecting the distribution of the educational system in the commune (12).

Awareness of the Existence of Emergency Plans

When asked about the existence of an emergency or school safety plan in their educational establishment, 71% of all respondents (students and adults combined) reported that they did not know whether such a plan existed, while 25% expressed uncertainty. Only 37% of participants confirmed knowledge of an existing plan.

Awareness varied substantially across groups. Among school administrators, 91% stated that their institution had an emergency plan, whereas only 50% of parents or non-teaching adults reported that such a plan existed, and 44% of this group reported not knowing. Among teachers, 89% indicated awareness of an emergency plan, compared with markedly lower levels among students.

Student Knowledge of School Safety Plans

Among students, 96% stated that it was very important to know the school safety plan. However, only 43% reported knowing their school's emergency plan, while 39% indicated that

they did not, and 18% were unsure.

Differences emerged according to school type. Students attending public municipal schools demonstrated higher levels of awareness (50%) compared with those attending state-subsidized private schools (34.6%).

Perceived Importance of Safety Education

Regarding the incorporation of emergency preparedness into the school curriculum, 89% of respondents considered it important that emergency plans be addressed in at least one subject. Only a small minority expressed uncertainty, indicating broad consensus across the school community.

Implementation of Emergency Drills

Overall, 52% of respondents reported that emergency drills involving the entire school community had not been conducted, while 19% did not know whether drills had taken place. Notably, 77% of school administrators reported that drills had been conducted, revealing a discrepancy between institutional reporting and community perception.

Among teachers, 62% reported that drills had been implemented, whereas 32% stated that they had not, and 6% expressed uncertainty. Among parents, levels of uncertainty were particularly high, reflecting limited involvement in emergency preparedness activities.

Parental Participation and Training

Only 27% of adult respondents reported that parents had access to training or informational activities related to school safety plans. The high proportion of “do not know” responses suggests deficiencies in communication and outreach to families within educational establishments.

Knowledge of Institutional Oversight

When asked about responsibility for supervising and evaluating the implementation of PISE, only 39% of adult participants reported knowing which institution fulfilled this role, despite national regulations assigning this responsibility to state oversight bodies (7).

DISCUSSION

This study assessed the level of knowledge, awareness, and perceived importance of school safety plans within the educational community of Peñaflo, Chile, in a national context characterized by high exposure to natural and socio-environmental hazards. The findings reveal substantial gaps between the formal existence of the Comprehensive School Safety Plan (PISE) and its effective dissemination, understanding, and internalization at the local school level.

Although national regulations mandate the existence of emergency plans in all educational establishments, the results indicate that knowledge of such plans is markedly limited among students and parents. Fewer than half of surveyed students reported being aware of their school’s emergency plan, and parents demonstrated the lowest levels of awareness across all

participant groups. In contrast, school administrators and teachers reported substantially higher levels of knowledge, suggesting that PISE may function more as an administrative instrument than as a genuinely community-based safety strategy.

This disconnect between institutional knowledge and community awareness undermines the preventive purpose of school safety planning. Emergency plans are only effective if they are known, understood, and practiced by all members of the school community. The observed informational asymmetries point to deficiencies in internal communication, training processes, and participatory implementation mechanisms within educational establishments.

Differences in awareness by type of educational institution further highlight structural inequalities. Students attending public municipal schools demonstrated higher levels of knowledge of emergency plans compared to those in private and state-subsidized private schools. This finding may reflect closer alignment between public schools and municipal or national safety initiatives, as well as greater exposure to publicly coordinated training and drills.

Despite the limited level of knowledge identified, a strong consensus emerged regarding the perceived importance of emergency preparedness. The vast majority of students and adults agreed that school safety plans are essential and supported their incorporation into the curriculum. This finding indicates significant latent willingness within the school community to engage with safety-related education, representing a valuable opportunity for policy and institutional intervention.

The discrepancy between reported implementation of emergency drills by school administrators and the low levels of awareness among students and parents further suggests that drills, where conducted, may not be sufficiently inclusive, visible, or pedagogically integrated. Drills appear to be inconsistently applied and, in many cases, insufficiently communicated, limiting their educational and preventive potential.

These findings align with expert perspectives obtained through qualitative interviews. Institutional actors consistently emphasized the absence of standardized evaluation mechanisms and performance indicators for monitoring PISE implementation. The lack of periodic assessments, accountability structures, and sanctions for non-compliance reduces incentives for sustained institutional engagement and limits opportunities for continuous improvement.

From a psychosocial perspective, the results underscore the importance of early and systematic preventive education. Theoretical contributions from safety psychology and psychoprevention emphasize that risk-related behaviors and attitudes are shaped through repeated exposure, experiential learning, and cognitive internalization during formative years (13)(14). Schools represent a privileged environment for embedding these processes, yet the findings suggest that preventive education remains underdeveloped and fragmented.

Parental disengagement emerged as a structural weakness both in survey responses and expert interviews. Families tend to become involved in safety issues primarily during or after critical events rather than as part of ongoing preventive processes. Strengthening parental participation requires more effective risk communication strategies and the creation of

institutional spaces for training, reflection, and shared responsibility.

Several limitations of this study should be acknowledged. The reliance on self-reported data introduces potential recall and social desirability biases. Additionally, the cross-sectional design captures perceptions at a single point in time and does not allow for assessment of changes in knowledge or behavior over time. Nevertheless, the mixed-methods approach enhanced the robustness of the findings through triangulation and provided both empirical and contextual insights.

CONCLUSIONS

The findings of this study indicate that the level of knowledge regarding school safety plans within the educational community of Peñaflor is insufficient and unevenly distributed. While formal emergency plans may exist in many schools, their dissemination and internalization among students and families remain limited, calling into question their operational effectiveness during real emergencies.

Significant informational gaps persist between different actors within the school community. School administrators and teachers consistently demonstrate higher levels of awareness than parents and students, highlighting a top-down implementation model that fails to fully engage the broader educational community. Moreover, uncertainty regarding institutional responsibility for supervising and evaluating emergency plans reflects weaknesses in governance and accountability mechanisms.

Despite these shortcomings, there is strong consensus across all groups on the importance of emergency preparedness and safety education. This shared recognition provides a solid foundation for strengthening school safety policies through participatory and educational approaches.

To address the identified gaps, several recommendations emerge. First, the supervisory role of the Superintendence of Education should be reinforced through clearer communication of responsibilities, regular evaluations, and the development of standardized management indicators for PISE implementation. Second, emergency preparedness should be systematically integrated into the formal curriculum, supported by teacher training and age-appropriate pedagogical strategies. Third, schools should promote inclusive and regularly scheduled drills that actively involve students, staff, and families. Finally, parental engagement should be strengthened through targeted training, improved risk communication, and community-based preventive initiatives.

Strengthening a comprehensive and participatory culture of prevention within schools will not eliminate exposure to natural hazards; however, it can significantly reduce vulnerability, improve emergency response capacity, and protect the physical and psychological well-being of students, educational staff, and families. In a country characterized by recurrent environmental risks, such measures are not optional but essential components of public education and disaster resilience.

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EJC: Data collection, analysis, text writing.

PAG: Design, final text preparation, supervision.