



Fostering international coordination in renal disaster preparedness: a collaboration between the Renal Disaster Preparedness Working Group of the International Society of Nephrology and the Disaster Preparedness and Response Committee of the Korean Society of Nephrology

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The increasing frequency and severity of natural disasters and human conflicts worldwide have highlighted the critical need for robust and coordinated renal disaster preparedness strategies. Recent events, such as the devastating earthquakes in Turkey and Syria, ongoing conflicts in Ukraine, Sudan, and the Middle East, and various other crises including the coronavirus disease 2019 pandemic

[1,2], have demonstrated the acute vulnerability of those living with kidney diseases or kidney failure during times of upheaval. These individuals face unique challenges in accessing life-saving and life-sustaining dialysis treatments for either acute kidney injury or kidney failure, or having an uninterrupted supply of maintenance immunosuppressive medications for kidney transplantation, often with dire

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consequences when support systems fail [3,4].

Considering this pressing global issue, we present a formal collaboration between the International Society of Nephrology (ISN) Renal Disaster Preparedness Working Group (RDPWG) and the Korean Society of Nephrology (KSN) Disaster Preparedness and Response Committee (DPRC) to enhance renal disaster preparedness and increase response capabilities. This collaboration is particularly important given the status of KSN as a collective-member society of ISN. The foundation for this collaboration was discussed at an ISN-endorsed dedicated symposium during the 2024 Asia Pacific Congress of Nephrology and KSN joint meeting; valuable insights and outcomes from these discussions are summarized herein.

Background

The ISN-RDPWG has been at the forefront of international efforts to address renal care in disaster settings. Its interventions in various global crises, including most recently the 2023 Turkey-Syria earthquake, ongoing armed conflict in Sudan, and the 2020 Beirut Port explosion, demonstrate the critical role of coordinated international response in mitigating the impact of disasters on kidney patients. Although the approach of the ISN-RDPWG does encompass immediate disaster response (primarily by mobilizing existing networks), its main focus is on preparedness through education, development of easily accessible guidance and reference documents, capacity-building, networking, and advocacy.

Similarly, in 2022 the KSN DPRC has developed comprehensive national strategies for disaster preparedness. Yoo et al. [5] highlighted the necessity of creating detailed action plans, establishing communication networks, and conducting regular drills to ensure readiness following the 2016 Gyeongju and 2017 Pohang earthquakes. This national-level approach provides valuable insights into the establishment of timely and effective localized disaster response mechanisms.

Rationale for collaboration

The collaboration between the ISN and KSN is founded on shared goals and complementary strengths. The ISN-RDPWG brings extensive international experience, a

global network of experts, and a track record of successful interventions in diverse crisis situations. The KSN DPRC offers valuable insights into national-level preparedness and response strategies, as well as expertise in adapting global best practices for dialysis and transplant patients at times of disasters to local contexts. According to USRDS ESRD Database, the highest incidence of treated kidney failure in 2020 was observed in Taiwan (525 per million population [pmp]), the United States (396 pmp), Singapore (366 pmp), the Republic of Korea (355 pmp), Thailand (339 pmp), Japan (307 pmp), and Indonesia (303 pmp) [3]. Six of the top seven countries are located in East Asia. As part of ISN's commitment to advancing kidney health worldwide, as well as fostering collaborations with its affiliates, and especially collective-member societies such as KSN, this effort is in line with ISN's mission of advancing equitable access to sustainable kidney care for all. The need for such collaborations and partnerships has grown due to the aforementioned rise in the number of people needing kidney replacement therapy and, consequently, their increased vulnerability during disasters. This is especially true for many countries in the Asia-Pacific region with a high prevalence of dialysis and experiencing an increasing frequency of natural disasters [6]. By combining the societies' expertise, a more robust and effective approach to renal disaster management can be devised and implemented on global, regional, and national scales. This partnership would allow for the exchange of knowledge and resources, potentially leading to more comprehensive and adaptable disaster response strategies worldwide.

Areas for collaboration

The collaboration framework will address the following key areas, involving information sharing and establishment of a regular exchange of knowledge, including lessons learned from recent disaster interventions and successful multinational preparedness strategies. This could involve creating a shared database of case studies, intervention reports, and effective logistics protocols. Joint training and education programs are also needed [7]. We suggest that collaborative training initiatives be developed for nephrology professionals, focusing on disaster preparedness and response techniques. This could include online courses, hands-on workshops, and simulation exercises to prepare healthcare

workers for various disaster scenarios.

Another area of partnership is to conduct joint research projects to improve understanding of kidney care needs in various disaster scenarios and to develop evidence-based interventions. Topics could include the long-term impacts of disasters on kidney patients, innovative solutions for providing dialysis in resource-limited settings, and strategies for maintaining medication supply chains, including immunosuppressive agents, during crises. Coordinated response strategies and policy advocacy could be the final aim. Protocols for joint or coordinated responses to international renal disasters can be created, leveraging the strengths of both organizations. This would involve developing clear communication channels, defining roles and responsibilities, establishing mechanisms for rapid deployment of resources and personnel, and advocating for the inclusion of renal disaster preparedness in national and international disaster response frameworks. Engaging policymakers, contributing to guidelines issued by bodies like the World Health Organization, and raising awareness about the specific needs of kidney patients in disaster situations should also be addressed.

Implementation strategies

To bring this collaboration to fruition, the following implementation strategies will be followed: 1) form a joint steering group to oversee collaborative efforts; 2) establish formal communication channels between the KSN DPRC and ISN-RDPWG, including online meetings; 3) organize annual joint meetings with ISN-RDPWG, alternating between KSN Congress and other regional societies' conferences to increase collaboration, grow a regional network, knowledge exchange and initiating pilot projects in key areas, such as a joint training program or a shared disaster response simulation exercise. A shared online platform can be developed for resource sharing, collaborative research, and real-time communication during crisis situations.

Challenges and considerations

We acknowledge several potential challenges in implementing this collaboration: including, language barriers, ensuring sustainable funding, cultural and contextual differences, and logistical complexities such as coordinat-

ing activities across different time zones and geographical locations. Despite these challenges, we believe that addressing them head-on will ultimately strengthen our partnership and improve our collective ability to serve kidney patients in crisis situations.

Conclusion

The partnership between the ISN-RDPWG and the KSN DPRC represents a significant opportunity to enhance global renal disaster preparedness. By combining our strengths, sharing knowledge, and coordinating our efforts, we can better protect and serve kidney patients worldwide during times of crisis. The vulnerabilities exposed by recent global events underscore the urgency of this initiative. Together, we can build a more resilient and responsive global network to support kidney patients in their greatest times of need. We look forward to the positive impact this partnership can have on the lives of kidney patients facing disasters around the world, and we invite other national and regional nephrology societies to join us in this crucial endeavor.

Conflicts of interest

All authors have no relevant conflicts of interest to declare.

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Data sharing statement

The data presented in this study are available from the corresponding author upon reasonable request.

Authors' contributions

Conceptualization, Project administration: All authors
 Data curation, Formal analysis, Investigation, Methodology, Resources, Software, Supervision, Validation, Visualization: KDY, AL, AAA, YKL, JPL, HCP
 Writing–original draft: KDY, AL, AAA, YKL
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References

1. Sever MS, Vanholder R, Luyckx V, et al. Armed conflicts and kidney patients: a consensus statement from the Renal Disaster Relief Task Force of the ERA. *Nephrol Dial Transplant* 2023;38:56–65.
2. Oviedo Flores K, Stamm T, Alper SL, Ritschl V, Vychytil A. Challenges to dialysis treatment during the COVID-19 pandemic: a qualitative study of patients' and experts' perspectives. *Front Psychol* 2023;14:1185411
3. Pippias M, Alfano G, Kelly DM, et al. Capacity for the management of kidney failure in the International Society of Nephrology Western Europe region: report from the 2023 ISN Global Kidney Health Atlas (ISN-GKHA). *Kidney Int Suppl (2011)* 2024;13:136–151.
4. Tuglular S, Luyckx V. Maintaining kidney replacement therapy during armed conflicts. *Nephrol Dial Transplant* 2024;39:735–738.
5. Yoo KD, Kim HJ, Kim Y, et al. Disaster preparedness for earthquakes in hemodialysis units in Gyeongju and Pohang, South Korea. *Kidney Res Clin Pract* 2019;38:15–24.
6. Gray NA, Wolley M, Liew A, Nakayama M. Natural disasters and dialysis care in the Asia-Pacific. *Nephrology (Carlton)* 2015;20:873–880.
7. Sever MS, Luyckx V, Tonelli M, et al. Disasters and kidney care: pitfalls and solutions. *Nat Rev Nephrol* 2023;19:672–686.