Editorial

Post-disaster mental health need assessment surveys – the challenge of improved future research

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Abstract

Disasters are very common occurrences, becoming increasingly prevalent throughout the world. The number of natural disasters either affecting more than 100 people or resulting in a call for international assistance, increased from roughly 100 per year worldwide in the late 1960s, to over 500 per year in the past decade. Population growth, environmental degradation, and global warming all play parts in accounting for these increases. There is also the possibility of a pandemic. This paper and associated journal issue focuses on the topic of growing worldwide importance: mental health needs assessment in the wake of large-scale disasters. Although natural and human-made disasters are known to have substantial effects on the mental health of the people who experience them, research shows that the prevalence of post-disaster psychopathology varies enormously from one disaster to another in ways that are difficult to predict merely by knowing the objective circumstances of the disaster. Mental health needs assessment surveys are consequently carried out after many large-scale natural and human-made disasters to provide information for service planners on the nature and magnitude of need for services. These surveys vary greatly, though, in the rigor with which they assess disaster-related stressors and post-disaster mental illness. Synthesis of findings across surveys is hampered by these inconsistencies. The typically limited focus of these surveys with regard to the inclusion of risk factors, follow-up assessments, and evaluations of treatment, also limit insights from these surveys concerning post-disaster mental illness and treatment response. The papers in this issue discuss methodological issues in the design and implementation of post-disaster mental health needs assessment surveys aimed at improving on the quality of previous such surveys. The many recommendations in these papers will hopefully help to foster improvements in the next generation of post-disaster mental health surveys. Copyright © 2008 John Wiley & Sons, Ltd.

Key words: mental health needs assessment, large-scale disasters, service planners, post-traumatic stress disorder

Background

Disasters are very common occurrences. Over 800 000 deaths occurred worldwide due to disasters in the decade of the 1990s. Financial losses are also great. In the US, where the most accurate records on financial losses due to disasters exist, losses due to natural

disasters averaged more than \$50 billion a year (roughly \$1 billion each week of the year) over the decade of the 1990s, and have been dramatically higher so far in the first decade of the new millennium. Although governments help repair infrastructure damage due to disasters, their contribution to personal property losses are

typically modest. In the US, for example, the federal government has covered only about 20% of the total financial losses caused by disasters over the past decade, with private insurers covering a somewhat higher proportion and private individuals bearing the remaining loss. Private insurers are becoming increasingly risk averse, though, making it likely that greater demands on governments and individuals for disaster financial relief will occur in the future.

Importantly, disasters are becoming increasingly prevalent throughout the world. The number of natural disasters either affecting more than 100 people or resulting in a call for international assistance, increased from roughly 100 per year worldwide in the late 1960s, to over 500 per year in the past decade (Pielke Jr, 2006). Population growth, environmental degradation (e.g. destruction of mangroves in coastal areas associated with population growth and changes in patterns of building and residence to meet population growth), and global warming all play parts in accounting for these increases (International Federation of Red Cross and Red Crescent Societies, 2006). There is also the possibility of a pandemic. Pandemics in recent generations have occurred approximately once every 10–30 years, with an increase in frequency over the past two centuries. It has been 35 years since the last worldwide pandemic, which suggests that a major worldwide pandemic is likely to occur in the near future. Increases in human-made disasters, both accidents (e.g. toxic chemical spills, accidental airplane crashes) and terror attacks, are also likely. With regard to accidents, the financial fraying of the international airline industry raises serious concerns about future safety (Krey, 2006). Meanwhile, power shortages and outages triggered by increasing weather extremes are likely in the future due to the increasing complexity of these systems. Terrorist attacks aimed at critical leverage points also have the potential to create disasters. A bioterrorist event (Ursano et al., 2003) or dirty bomb would be catastrophic to large areas and vast populations (Ursano and Norwood, 2003). The anthrax attacks in the US of 2001–2002 illustrate the economic and behavioral costs of even a small-scale bioterrorism event.

Although natural and human-made disasters are known to have substantial effects on the mental health of the people who experience them, research shows that the prevalence of post-disaster psychopathology varies enormously from one disaster to another in ways

that are difficult to predict merely by knowing the objective circumstances of the disaster (Galea et al., 2005; Norris, 2005). Mental health needs assessment surveys are consequently carried out after many large-scale natural (Ironson et al., 1997; Kohn et al., 2005) and human-made (Gidron, 2002; North et al., 2004) disasters to provide information for service planners on the nature and magnitude of need for services. These surveys vary greatly, though, in the rigor with which they assess disaster-related stressors and post-disaster mental illness. Synthesis of findings across surveys is hampered by these inconsistencies (Brewin et al., 2000; Galea et al., 2005; Katz et al., 2002; Norris, 2005). The typically limited focus of these surveys with regard to the inclusion of risk factors, follow-up assessments, and evaluations of treatment, also limit insights from these surveys concerning post-disaster mental illness and treatment response. The papers in this issue of the *International Journal of Methods in Psychiatric Research* discuss methodological issues in the design and implementation of post-disaster mental health needs assessment surveys aimed at improving on the quality of previous such surveys. Our hope is that the many thoughtful recommendations in these papers will help foster improvements in the next generation of post-disaster mental health surveys.

A preview

The first paper in the issue, by Kessler, Keane, Ursano, Mokdad, and Zaslavsky, sets the stage for the papers that follow by providing a broad overview of the many methodological challenges that face researchers who design post-disaster surveys. Drawing on the considerable experience of the co-authors in studying psychological reactions to terror attacks and natural disasters, including their ongoing collaborative study of psychological responses to Hurricane Katrina, the paper focuses on sampling and design issues aimed at estimating the prevalence of disaster-related psychopathology, examining before–after differences in prevalence in situations where the research begins only after the occurrence of the disaster, and embedding quasi-experimental evaluations of treatment response into tracking surveys.

The subsequent papers in the issue all take the papers by Kessler and his colleagues (Galea et al., 2007; Kessler, 2007; Kessler et al., 2008; Kessler et al., 2006; Wang et al., 2007, 2008) as a point of departure. Galea, Maxwell, and Norris (2008) expand on the Kessler

et al. discussion (in this issue) of sampling and design challenges by focusing on the problems associated with targeting the populations of central interest and designing studies in such a way that inferences drawn are valid. Drawing on their extensive experiences studying psychological responses to the September 11, 2001 terror attack in New York City along with a wide range of natural disasters, the authors offer a number of valuable suggestions to resolve each of the methodological problems they raise. They also offer suggestions for methodological advances aimed at moving the field forward in the future.

The next paper, by Rubin, Amlôt, Page, and Wessely, discuss the challenges inherent in providing timely information for policy-makers aimed at predicting the course of psychological reactions. Based on their experiences studying psychological reactions to the July 7, 2005 London subway bombings, they discuss the importance of assessing the public's trust in authorities, perceived risk of future recurrences, willingness to take prophylaxis, and patterns of help-seeking in order to understand and predict the trajectory of need for mental health services in the weeks and months after terror attacks. The authors argue for the importance of using rapid-response public opinion polling methods to gather such data rather than using the much slower, albeit possibly more reliable methods of face-to-face surveying found in more conventional psychiatric epidemiological surveys. They also call for future methodological research to compare the results obtained in telephone opinion poll type needs assessment surveys compared to slower and more expensive face-to-face surveys in an effort to evaluate the time versus quality trade-offs in using one or the other modes of data collection.

Ginzburg and Solomon, in the next paper, discuss the importance of coordination between the designers of needs assessment surveys and the designers of the community interventions needs assessment surveys are supposed to inform. They also discuss the importance of cultural sensitivity in carrying out needs assessments in multi-cultural societies, illustrating their points with a number of telling examples from their research in Israel. Their examples make clear that it is sometimes very difficult to infer the aspects of ostensibly traumatic situations that are experienced as stressful by the people exposed to these situations. Based on these observations, the authors argue persuasively for the importance of including a discovery component in

needs assessment research. They similarly caution against premature closure of conceptualization or measurement in an effort to increase coordination across diverse surveys, as the latter could reify narrow perspectives that decrease opportunities for discovery. The examples provided by Ginzburg and Solomon admirably illustrate cases in which important discoveries were made in the context of standardized assessments. The challenge for future applications is to develop models of investigation that maximize opportunities for this type of discovery and broadening of perspectives in the context of increased standardization.

Raphael, in his article, presents a wide-ranging set of issues that expand the considerations in the early papers in several important ways. Of special note, Raphael notes that several levels of coordination are needed for successful post-disaster research: coordination within inter-disciplinary teams of researchers; coordination between researchers and administrative agencies that have access to data that can facilitate research design and implementation; coordination between researchers and service providers; and, importantly, coordination among the many different sets of individuals and organizations that provide services, often with inadequate coordination, to disaster victims. Raphael notes that the last of these kinds of coordination needs to be the focus of increased attention by disaster researchers in order to understand the modifiable determinants and consequences of service coordination. Raphael, like the earlier authors, calls for the development of core templates for future disaster research and suggests that the international research community, along with other key stakeholders, should come together to agree on such templates in order to promote quality improvement in disaster mental health research.

The final paper, by Pfefferbaum and North, discusses special issues concerning research on the effects of disasters on children. Many of the practical issues involved in studies of adults are complicated in studies of children. This is especially true in studies of children who are too young to provide self-report, where informant reports provided by teachers and parents have become the norm in assessing psychological responses. As noted by the authors, parent reports can often be unreliable, especially when parents are themselves disaster victims, making it all the more important to have teacher reports, which means that school-based sampling is critical for the assessment of disaster

response among children. Drawing on their extensive experience studying children in a wide variety of disaster situations, Pfefferbaum and North review a variety of special methodological challenges in studying this important and vulnerable segment as well as offer thoughtful suggestions for resolving these challenges using innovative methods and suggestions for future development.

The challenge of improved future research

Taken together, the ideas discussed in these papers, based on the extensive experience of the authors, all of whom are leading authorities in different aspects of disaster mental health research, deal with the full array of issues that must be addressed by researchers setting out to implement post-disaster mental health needs assessment research. As emphasized in all the papers, such research is best carried out in the context of prior coordinated planning by researchers and other key actors in disaster response efforts. Although prior planning of this sort is so far the exception rather than the rule, a number of examples are presented in the papers of ways in which coordination is increasing over time, most notably in the establishment of a disaster research center to implement needs assessment surveys in the US and the establishment of an infrastructure for pre-post disaster comparisons of psychopathology in the context of ongoing government mental health tracking surveys in Australia. Much more work on coordination among researchers and between researchers and key disaster response decision-makers is needed to realize the full potential of post-disaster mental health research. Our hope is that the papers assembled here will help create an impetus for this important future work.

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Declaration of Interests

Dr. Kessler has been a consultant for GlaxoSmithKline Inc., Kaiser Permanente, Pfizer Inc., Sanofi-Aventis, Shire

Pharmaceuticals, and Wyeth-Ayerst; has served on advisory boards for Eli Lilly & Company and Wyeth-Ayerst; and has had research support for his epidemiological studies from Bristol-Myers Squibb, Eli Lilly & Company, GlaxoSmithKline, Johnson & Johnson Pharmaceuticals, Ortho-McNeil Pharmaceuticals Inc., Pfizer Inc., and Sanofi-Aventis. Hans-Ulrich Wittchen has no conflicts of interest.

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