

The challenges of purpose in the face of chaos: commentary paper by Professor Beverley Raphael

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Abstract

This paper addresses the issues and purposes of psychiatric research into disaster. Purposes include those that are focused on basic scientific questions, such as the role of disaster stressors in contributing to the development of psychiatric morbidity, and research attempting to identify the level of mental health need. There is also intervention research but this is limited in the acute emergency and longer term. These questions and the methodologies to address them, overlap significantly. Many studies use different measures of exposure, disorder and other disaster variables. There is also a wide range of population groups studied, making comparison of findings difficult. Thus, for these large scale events affecting populations, studies may not readily meet either the purposes of affected populations or government funders. Nor are interventions systematically operationalized to promoted replication. Challenges lie in the diversity of researchers, the pluralistic nature of Western society and the rapid development of the field. It is suggested that a set of disaster mental health research standards, based on core principles and data, would facilitate national and international collaboration and the interests of individual researcher. This could lead to comparable studies that could progress the field, while at the same time fostering innovations which could link to these research programmes. Strategic partnerships with government and other funders, as well as affected communities, could strengthen advocacy and commitment for disaster mental health research. Copyright © 2008 John Wiley & Sons, Ltd.

Key words: disaster stressors, innovative methods, mental health need

Introduction

Kessler et al.'s (this issue) valuable paper describes the development of a systematic method for disaster mental health research: specifically epidemiological research of disaster affected populations to assess need. The methods were developed and tested beforehand, and were implemented after Hurricane Katrina. It is awe-inspiring to learn of the researchers effective strategies to fulfil their purposes in the face of chaos, dislocation and dispersement of populations, and destruction of the infrastructure on which one would normally rely in such circumstances.

Many different research strategies have been used to study those affected by disaster and terrorism, with the result that there are diverse findings which are difficult to synthesize: and thus difficult to use to drive policy and funding that will inform preparation for and response to the mental health impacts of these various catastrophes. Although there have been significant attempts to make meaning of many different findings, such as those of Norris and colleagues (Norris, 2005; Norris et al., 2002a, 2002b), there are still the problems of inconsistency of methods and measures, originally highlighted in recommendations for the use of comparable core data sets (Raphael et al., 1989).

Purposes

As indicated by Kessler et al. in this special issue, one of the central purposes for examining mental health or other impacts in disaster affected populations is to assess need for mental health care. This requires two conditions to be met: that we understand the extent and nature of the additional need that relates to the disaster effects, and that there are effective interventions that we can provide to fulfil this need. The former requires a capacity to quantify this extra need, in turn requiring data on pre-existing levels of mental health problems, as well as the persons/groups so affected. The second requires the availability of interventions, be they prevention or treatment; the systems through which they can be effectively implemented and the human and economic resources that will be available for these goals. These elements demonstrate the critical nature of engagement with agencies that plan for and drive response policies and programmes, and provide funding. Kessler et al.'s study (this issue) shows the importance of using linkages to data bases such as behavioural risk factor surveillance programmes, to identify pre-existing levels of mental health distress/'caseness'. Then there is the further requirement for post-impact measures over time, such as the K-6 or K-10 for surveillance, to monitor trends, and to assess the impact of population based strategies. As these authors state, this requires multiple collaborations to optimize data linkages, to overcome bureaucratic barriers, and to address privacy and ethical considerations.

Other purposes have also driven disaster research. For instance the scientific questions of aetiology may arise about the ways in which mass adversities may lead to pathology, in some people but not in others: there are also the questions as to how and why such experiences mobilize courage, altruism and resilience; or even post-traumatic growth. The majority of studies in this context have focussed on post-traumatic stress disorder, often leading to the view that this is the principal outcome of significance so that multiple other effects, and their aetiological pathways, may be inadequately investigated. Such research also calls for the understanding of pre-existing vulnerabilities and disorders and the degree to which these or other variables contribute. There has been little focus on the measurement of strengths and positive outcomes until recent initiatives such as the exploration of post-traumatic growth in Kessler et al.'s study (this issue).

A further purpose may be to assess the effectiveness of programmes of interventions. This links more closely to evaluation research, as there is no easy framework for randomized controlled trials in the early post-disaster period, when even basic data gathering *per se* may be difficult. It is this area of research which particularly requires ways in which the data sets utilized can be linked to service system data requirements for documentation, in both public and private sector mental health services.

The historical evolution of disaster mental health research has developed from observations, clinical assessment and interviews, building data through research questionnaires, tools and methods available at the time, as exemplified by the diverse research strategies used following the Buffalo Creek Disaster, which when drawn together, provide a rich and comprehensive picture of the consequences over time. When reviewed in 1986 the studies of disaster mental health demonstrated the themes of relevance today: the nature of the stressor exposures and the specificity of reaction to them; the high levels of distress initially with attrition over time; the ongoing chronic impairments for those most severely exposed (Raphael, 1986). Findings indicated the need to systematically assess needs for mental health care, in consistent ways across different disasters, and over time, and to further understand the aetiology of such problems.

Methodological issues

Clinical observational skills and curiosity have been important in identifying variables that can then be subjected to more systematic research, for instance the patterns of distress, factors that may mitigate these and triggers as tipping points leading to the spectrum of symptoms and disorders. Research questions arising from such observation progress to the use of specific measures and sampling of affected populations. Collaborative research teams including epidemiologists and other researchers utilizing their various tools at population and clinical systems levels, with a detailed examination of sub-samples of interest, could greatly enhance the yields of disaster mental health research. Similarly integration of mental health research in interactions with the responding systems could enhance knowledge.

As suggested in Zatzick's (2007) studies, it is possible to integrate a mental health response to trauma with health care systems for both emergency response and

through the phases of care and recovery for those injured. Further development for such models of integration and consultancy could contribute to understanding the various positive aspects of response and their outcomes. This would be well served by consistent core data sets covering socio-demographic, exposure and psychological distress elements, with some agreed post-traumatic reactive symptoms and disorder elements.

While Kessler et al.'s paper (this issue) has demonstrated the challenges of implementing a developed and tested methodology, it also demonstrates what could be achieved if researchers adopted this model. In particular it shows the utility of population measures and surveillance monitoring, with the potential for measures such as the K-6 to be one of the core components, pre- and post-incident. Recent reports discuss the value of baseline national mental health surveys in providing data on the nature and patterns of mental disorders in diverse populations across the world, through the World Health Organizations (WHOs) Mental Health Surveys (Henderson and Andrews, 2008). They suggest that while the use of standardized interviews for categorical diagnoses has been helpful, great value lies in the dimensional measures such as the K-10 (Kessler et al., 2002), or the General Health Questionnaire (GHQ-12) (Goldberg and Williams, 1988), for the population and feasibility aspects, as well as their utility for surveillance to study impacts of mass adversities over time. Ideally both can be utilized to provide the population and in-depth categorical elements through nested studies.

Australian baseline data mental health using the K-10/K-6 is available in National Health and other surveys; as a mental health service outcome measurement component; and through state-based Computer Assisted Telephone Interview (CATI) ongoing surveillance of representative population samples. A capacity to monitor impact of mass adversities such as terrorism or pandemic influenza has been set in place to allow pre- and post-assessment through development of modules to explore baseline perceptions of risk and response to those threats and their relationship to variables such as resilience (personal and societal), mental health and other relevant issues (Raphael et al., 2008).

Organizational issues in disaster response

Kessler et al.'s paper (this issue) also shows the multiple agencies and groups that are involved both formally

and informally in disaster response, and how critical engagement with these is for response. The convergence of organizations with diverse roles, many of which include mental health or 'counselling' aspects, can add to chaos, or even create additional problems. There is the need to research the organizational response framework in emergency or recovery groups; the degree to which practical support contributes to protecting mental health, or may be a vehicle alongside which mental health interventions can be provided; and how their activities may support or alternatively impact adversely on mental health of affected populations. This can be exemplified in the aftermath of the south-east Asian Tsunami, where groups of counsellors arrived to provide debriefing for affected populations in the aftermath although they did not understand either the language or culture of the people they arrived to help. Foreign disaster teams may be overwhelmed by their experiences in developing countries with poor infrastructure so that their capacity to function may be impaired and they may become casualties.

Challenges exist even when there may be agreed epidemiological research strategies, or surveillance mechanisms, in how these may interact with the research efforts of other organizations at the time of an incident, for instance with different sampling strategies, or with differing purposes. How might these research endeavours first, do no harm, and secondly achieve purposes that researchers propose and that are seen to be of value by affected populations and their governments. The model of a Community Advisory Group as in Kessler et al. (this issue) is one important component.

Measures

This field is beset by the diversity of measures used. This is particularly so with respect to measures of exposure, for instance what experiences during the disaster and its aftermath could be defined as possible stressor exposures and how are they 'measured'. These range from the perceived exposure to lifethreat, to the gruesome and multiple deaths of others, to the loss by death of a loved one, other losses, loss of community, home, workplace, sense of personal or national invulnerability, resource loss, the impact of malevolent intent, lack of validation, and so forth. The development of agreed research criteria for measurement of stressor exposures, plus reactions to these/perceptions, etc., would be a major advance in this field.

The viewing of disasters through the 'lens' of post-traumatic stress disorder, of psychological trauma, has meant that other stressor exposures have been either interpreted in this light or not recognized for their significant implications for mental health. The different phenomenology and outcomes following the loss of loved ones; of bereavement as a disaster stressor associated with the potential for very adverse outcomes, has been poorly dealt with. There is the need to research these different phenomena, and the trajectories of pathology for children, adolescents which have been highlighted through studies such as those of Pynoos et al. (2007), and more recently as the basis for interventions for 'traumatic grief'. The different phenomena of reactions to psychological trauma and to loss and grief in adults have been highlighted and studies have identified their potential to contribute to different mental health outcomes such as post-traumatic stress disorder (trauma) and depression (after loss of a loved one, bereavement) (Raphael et al., 2004). Other stressors also require research exploring the impact and the trajectories of pathologies and/or resilience over time, for instance that of dislocation from home/place. Such studies could make for depth of knowledge about psychological trauma, loss and other adversities which may be massed, concurrent and consequential.

Similarly the rise of concepts of resilience with its multiple definitions and potential measures at individual, group and societal levels is a challenge in both operational terms, as well as measurement consistency as is post-traumatic growth.

Then, there are diverse mental health outcomes measures, including the cross Atlantic challenges of the K-10 and the GHQ-12 [i.e. the European use of the GHQ for General psychological distress, and the K-10 (K-6) in the US and Australia]. There is also the need for consideration of outcomes beyond post-traumatic stress disorder including depression and other psychiatric disorders, somatization syndromes, health behaviour effects, social and relational aspects and functional capacities in work, learning and other settings.

There is increasing interest in the biological aspects, from the brain responses to psychological trauma and to grief, to the exposures to toxic chemicals, pathogenic organisms, radiological/nuclear materials and the trajectories of biological and psychosocial effects over time (Ursano et al., 2004). Finally how will the biological pre-existing variables, and their consistent measurement be taken into account, and factors such

as the gene-environment interactions that may shape destiny?

These methodological and measurement demands and the 'virtuous intent' of this work require a national and international commitment from researchers and relevant stakeholders to support the development of a core methodological and measurement templates for future work in this field. Such templates would need to be feasible, to be able to be implemented in line with the diversities of disasters and disaster affected populations, including their cultural requirements. Specific additional research modules could also be developed for use as indicated.

Interventional aspects of research

Interventions are proposed through a range of disaster focussed strategies, each of which has methodological challenges. Many of these are well exemplified in Neria et al.'s (2006) volume on mental health research after 9/11. These include outreach as with Project Liberty, a public health strategy focussing on implementation and education, linked to telephone counselling and personal support, with the capacity to link to clinical interventions for those with greatest need. This volume highlights the difficulties of the science for public health interventions with their population and community focus, and clinical evidence-based strategies with their post-traumatic stress disorder focus, and the lack of effectiveness studies in such contexts. Nor do methods and measures here or elsewhere adequately address the community developed strategies, arising from the affected populations and their benefits or otherwise. It is yet to be established that the mental health interventions that are provided are accurately documented, with agreed measures of what is done to whom; why; for what positive and/or negative outcomes; and by whom with what expertise, fidelity and integrity to the intended aims.

Another important element of interventional research in post-disaster contexts is how it will deal with the changing trajectories of need and resilience over time, and how it will be delivered in integrated ways while meeting survival, resource and practical needs; and how it will fit with diverse systems of health care such as primary care, emergency rooms, and the hospital settings, as well as welfare and recovery strategies. WHO planning templates (WHO AIMS-E) for disaster identify the need for a mental health preparation plan and a mental health response plan. There is

the need for a coherent set of guidelines for mental health response in diverse disaster contexts, with diverse populations, with consistent requirements, across age groups and cultures, informed by themes such as those dealt with in the *Textbook of Disaster Psychiatry* (Ursano et al., 2007). The research development of indicators for programmes and outcomes could contribute to advancing knowledge and the effectiveness of intervention programmes.

Challenges and strategies

The purposes of understanding and responding to the mental health impacts of disaster may be best served by the development of a research methodology and measurement strategy; by standards for research in disaster contexts; and political and policy partnerships to support a more productive strategic approach.

Methodological and measurement issues: the development of a disaster mental health research strategy

Many of these have been discussed but the central themes of pre-developed frameworks; for stated purposes or aims, with ethical clearance, are central. To achieve this it would seem that a number of national consensus processes, with the capacity to move to internationally accepted core methodologies, would be a potential way forward. To address this there would need to be intensive consultation and collaboration to agree on the fundamental basic data requirements, for instance demographic measures, dimensional screening of psychological distress such as the K-6 or K-10, hopefulness or resilience measures, core exposure assessments, and other core modules for deployment as required. Background pre-existing measures to enable data comparison pre and post, such as suggested by Kessler et al. (this issue) with the Behavioural Risk Factor Surveillance Survey (BRFSS) are vital, with the ideal that similar core measures would be used in mental health clinical data sets.

In this context the central theme of disaster response should also prevail in that the greatest good for the greatest number is a critical issue. Thus priorities for core research should be determined, as suggested by the Consensus Conference in Early Intervention after Mass Violence (National Institute of Mental Health, 2002), and include requirements for 'systematic data collection, evaluation and research to be carried out before, during and after mass violence and disasters'. Central also is the requirement for research on interventions,

both evaluation of what is done, and the development of new research models to test effectiveness of interventions in disaster contexts.

The use of innovations in research design, data analysis models for very large data sets, and technologies such as the global positioning system (GPS) to follow movement patterns in the emergency and post-disaster period, are some of the options that can take such research to the field. Mass data can be further refined through in-depth and specific sub-sampling with the focus of addressing further the research purposes/questions in such studies.

The critical issue in such a strategy is that there is a set of core requirements which are maximally useful, feasible in that they do not make too great a demand on researchers or those researched; can be implemented in the diverse contexts of disaster; and can potentially contribute over the time course of consequences. Such a core would give meaning to disaster research for the populations affected, and the governments and agencies who will address their needs. This process, in and of itself should be the next major funded strategy of disaster mental health research.

Contexts of disasters: the development of disaster mental health research standards

Chaos, disruptions, dislocation, death, are all characteristics of disaster making the practicalities of implementing research difficult, particularly with the imperative 'first not to harm'. Complexity, multilayering of effects, 'collective trauma', may all challenge the research process and goals. These factors mean that the simpler, more practical and relevant the research, the more it can be integrated with other systems of response, and the more likely it is to provide data that will be helpful to its purpose. Several strategies can assist, from the hand-held field data entry model used in the broader disaster response contexts (Fink, 2007) to the engagement of those affected in partnership with the researchers, as with Community Advisory Group described by Kessler et al. (this issue).

The value of such advisory groups is highlighted in this paper (Kessler et al., this issue). A recent example in Australia was an advisory group with schools and families following a cyclone in far North Queensland. This assisted with the shaping of the research booklet used for survey 'Cyclone Larry and Me' which assessed childrens' connectedness and experience, and the correlation of these with trauma related mental

health outcomes (McDermott, personal communication, 2007).

Aspects of research methodology and management can add to relevancy; communities can understand the need for core data to assist the many, and to help others going through similar experiences; they will be keen to participate if it can be integrated with responses to their practical and survival needs; and their hopefulness and resilience will be reinforced measuring if this is seen as a valuable component of the research, as is the assessment of their suffering and problems; and if, as is ethically required, there is the possibility of providing for those needs that have been assessed. As indicated by Kessler et al. (this issue), they are also assisted by being kept in the loop with feedback on findings. Disaster research strategies in the future could encompass such strategic requirements into review processes; templates for funding; and ethical clearance.

To address these challenges a set of standards for disaster mental health research and its implementation could be developed. These could encompass generic requirements such as first not to harm; cultural competence and safety; community engagement; principles for engagement; disaster focussed purposes, both specific and generic; management of disaster specific challenges such as criminal investigation aspects; disaster victim identification requirements; the need for benefit; and the practical and ethical requirements.

Political and policy frameworks: strategic partnerships

Ultimately research in this field is funded by governments or private sector groups in terms of the scientific value and contribution to society. Policies and funding may be shaped by its findings, or research may be commissioned to meet government goals, such as the best way to deliver disaster mental health services; what they might reasonably cost and the efficiencies of funding for the beneficial outcomes. Strategic partnerships between the leaders in disaster mental health research strategy development, as mentioned earlier, and government policy development leaders in the field of disaster preparation and response could provide a sound basis for taking forward a consistent, valuable core methodology and measurement protocols, to which could be added agreed modules for diversity of needs, and diverse research agendas.

The ultimate challenge: researchers

Researchers themselves are usually individuals driven by passion, ideas and intelligence, and the wish to make

things better for others. Those working in disaster mental health research confront the overwhelming human impact and suffering of mass catastrophe. Their career structures and performance criteria may make the collaborative processes to reach consensus, to use some consistent frameworks, difficult as may the competitiveness inherent in scientific drive. How consistent data requirements and processes may add to their capacity to give ongoing meaning to their creativity will be critical themes for the evolution of disaster mental health research strategies, standards and partnerships.

Conclusion

There are many ways forward but optimally a set of strategies, standards and partnerships could set goals for national and international advances in disaster mental health research, to meet needs such as those suggested by Kessler et al. (this issue).

Declaration of Interests

The author has no interests to declare.

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