Epidemiology and Psychiatric Sciences (2013), **22**, 147–150.
doi:10.1017/S2045796012000601

COMMENTARY

Social networks and support in early psychosis: potential mechanisms

Received 18 September 2012; Revised 22 September 2012; Accepted 24 September 2012; First published online 26 October 2012

Key words: Early psychosis, mechanisms of change, social network, social support

Commentary on: Gayer-Anderson C, Morgan C (2013). Social networks, support and early psychosis: a systematic review. *Epidemiology and Psychiatric Sciences* (doi:10.1017/S2045796012000406).

Introduction

The comprehensive review in this issue by Gayer-Anderson & Morgan (2013) establishes, beyond reasonable doubt, that the social network and support deficits characteristic of psychosis are already apparent in the very early stages of the disorder. Even at first episode, the networks of people with psychosis comprise few members, with whom, moreover, they may have little contact. Their networks tend to contain proportionately more family members. They have fewer confidants, and more people are described as acquaintances. They are less likely to be satisfied with the level of support they receive, despite receiving more than they give (i.e. despite non-reciprocity). Networks may show evidence of shrinkage before the onset of illness. From this, it appears that psychosis is characterized by a reduction of social opportunities and a parallel narrowing of focus, most consistent with it being a consequence of the illness itself. This is supported by studies showing the association of small network size with longer duration of untreated psychosis and poor premorbid functioning.

However, small networks presage the level of positive and negative symptoms in people with psychosis up to 3 years after initial assessment, independently of a range of other potential predictors. Gayer-Anderson & Morgan (2013) also draw attention to follow-up studies of normal populations, in which small networks predict the emergence of quasi-psychotic experiences. Although relatively small social networks are typical of people with psychosis, the size and other characteristics of the networks do vary greatly from person to person (Angell & Test, 2002). It is these inter-individual differences that appear to relate to illness course and outcome.

These results suggest reciprocal relationships between reduced social networks, increasing symptoms of psychosis, and poorer outcomes. This has the potential to form an unpleasant vicious circle, and implies at least some aetiological role for social relationship deficits. In this commentary, we argue that the postulated aetiological role becomes more plausible if we can identify effective mechanisms. This in turn implies that effective treatments could be directed at any point in the circle. In practice, changing the characteristics of social networks (e.g. by befriending interventions or facilitating social support) has proved difficult (Sensky *et al.* 2000). One reason for this may be that some people with psychosis may not be motivated to maintain friendships. Thus, interventions that focus on increasing the numbers of friends available may not be targeting the right problem: changing perceptions of inadequate support may be required.

Social networks

Social relationships are clearly important for general health and well-being (Thoits, 2011). Those with good social relationships and social support are physically and mentally healthier and live longer (Holt-Lunstad *et al.* 2008). Over the past four decades, researchers have tried to define, describe and isolate the quantitative and qualitative characteristics of social networks and social support responsible for these protective effects. Some of these effects will be generic, but others may be specific to particular conditions such as psychosis.

The various definitions of social networks in the literature represent relatively minor variations on a theme. Thus, social networks are only a subset of the totality of social contacts, a subset defined by

Address for correspondence: Professor Paul Bebbington, Emeritus Professor of Social and Community Psychiatry UCL Mental Health Sciences Unit, 2nd Floor, Charles Bell House, 67-73 Riding House Street, London W1W 7EJ, UK.

(Email: P.Bebbington@ucl.ac.uk)

persistence over time and a degree of significance. This is because they are held to play an important role in the maintenance of the psychological and physical integrity of the person. Primary relationships (the main source of social support) have been distinguished from less personal secondary relationships.

On the basis of these definitions, social networks can be specified further in structural and functional terms. The former denote the existence and pattern of interconnections of network members rather than the content or quality of relationships. Functional aspects refer to what is provided by, or perceived to be available from, social relationships. Social networks are also described in terms of quantitative and qualitative aspects. Quantitative aspects include network size and density, kin *v.* non-kin composition, marital status and whether living alone. Qualitative aspects connote the degree of satisfaction with social relationships. These include reciprocity (the extent to which the relationship is characterized by giving as well as receiving), accessibility (the ease with which network members can be contacted), multiplexity (the number of separate functions provided by relationships), social isolation (pervasive lack of social contact or communication), the presence or absence of a confidant, and loneliness.

Social support

Social networks are important because they are the vehicle for delivering social support. However, while they are necessary conditions for social support, they are not sufficient. Studies of social networks in relation to psychiatric disorder are essentially using them as a proxy for (often unspecified) elements of support. However, support does not map perfectly onto the attributes of social networks. For example, someone with a large network may actually feel lonely, and perceived social support is not necessarily greater in more extensive social networks.

Social support is a functional attribute of social relationships: frequently mentioned functions are emotional, informational and instrumental (Alloway & Bebbington, 1987; Thoits, 2011). A number of definitions emphasize the cognitive elements.

However, social support covers several subconstructs. The most commonly distinguished are received and perceived support. Received social support refers to the actual provision of supportive behaviours by others; while perceived social support concerns the recipient's perception of, and satisfaction with, the general availability of support. The main difference is that perceived social support refers to anticipating help in times of need; whereas received social support involves the recall of support provided over a given period. The distinction is important because research consistently shows stronger links between health and perceived social support.

It is important to note that not all social relationships are supportive or perceived as supportive; they can be a source of stress and strain, and some are abusive. Social withdrawal may consequently be protective, by insulating individuals from stressful relationships (Wing, 1978). However, even when someone withdraws in this way, they may still feel the effects of lack of support in the form of distress and loneliness (Duberstein *et al.* 2004).

Loneliness in psychosis

Loneliness is a distressing negative experience resulting from a discrepancy between the desired and the perceived state. It has both a cognitive element (the perception of relationship inadequacy) and an affective character (an unpleasant experience). Although loneliness is influenced by quantitative and objective aspects of social networks (e.g. size of social network and frequency of contact), it is determined more by subjective appraisals, such as satisfaction and perceived adequacy. Loneliness does not equate with objective social isolation: the number of their friends is not a good predictor of how lonely someone feels.

The wide-ranging effects of loneliness are apparent. It is associated with reduced life satisfaction, psychosocial problems (low self-esteem and reduced social competence), and mental health difficulties including anxiety and schizophrenia (Neeleman & Power, 1994; DeNiro, 1995). It is accompanied by a variety of negative affective states such as shyness, boredom or feelings of alienation. In people with schizophrenia, DeNiro (1995) found an increase in alienation, social isolation and loneliness over the patient's lifetime, and, conversely, a decline in positive connections with others. Neeleman & Power (1994) found patients with psychosis had the smallest social networks, and felt lonelier than all other patient groups, independently of network size.

Confidants for people with psychosis

A confidant is someone who provides a relationship characterized by emotional intensity, reciprocity and availability. Its absence is strongly linked to the experience of loneliness (Green *et al.* 2001). Even at first episode patients have significantly fewer confidants than controls: Morgan *et al.* (2008) recently showed that first-episode psychosis patients were seven times less likely to have a confidant.

Mechanisms of change in social networks and social support

Although the effect of poor social networks and poor social support on physical and mental health is well established, our understanding of the mechanisms by which they operate is limited. We have chosen to argue here for the (neglected) role of psychological mechanisms (perceptions and their accompanying negative cognitions and affect), on the grounds that physiological responses are likely to be influenced by the psychological consequences of suboptimal social relationships (Thoits, 2011), and because the effects of specific psychological processes have been progressively substantiated in recent cognitive models of psychosis (Garety *et al.* 2007; Fowler *et al.* 2012).

Psychosis and the family

The narrowing of social networks in the preamble to psychosis often means that social support becomes restricted to family members. The ways in which family relationships affect the course of psychotic symptoms have been extensively investigated. High levels of expressed emotion in key relatives predict patient outcomes in schizophrenia, and family intervention can reduces relapse rates (Bebbington & Kuipers, 1994; Pharoah *et al.* 2006). Patients are certainly able to perceive carer criticism accurately, and such perceptions are linked to poorer functioning (Onwumere *et al.* 2009). Criticism is the direct transmission to the patient of negative judgments, and is associated with negative affect and poor self-esteem (Barrowclough *et al.* 2003).

In contrast, carer warmth protects against relapse (Bertrando *et al.* 1992). Such supportive relationships are likely to operate by reducing negative affect in patients and in some trials of psychological therapy, 'befriending' or supportive therapy resulted in these kinds of improvements, although not sustained (Sensky *et al.* 2000). It may also explain the better response to psychological treatments of patients in contact with carers (Garety *et al.* 2008).

Relational regulation theory

Building on attachment research, Relational Regulation theory (RRT; Lakey & Orehek, 2011) contains explicitly cognitive and affective elements. Specifically RRT asserts that 'main effects of social support on mental health occur when people regulate their affect, thought and action through ordinary yet affectively consequential conversations and shared activities, rather than through conversations about how to cope with stress' (p. 482). According to RRT 'perceived support typically does not directly cause affect but emerges from the types of social interaction that successfully regulate affect' (p. 490).

Social support and cognitive models of psychosis: common ground

Impairments in social networks and support are associated with increased rates of dysphoric mood, specifically anxiety and depression. They are also associated with effects on a range of cognitions. Cognitive models of psychosis (e.g. Garety *et al.* 2007) propose that the emergence and maintenance of psychotic disorder involves both cognitive and emotional processes. The models postulate that environmental factors operate through psychological mechanisms including an increased vulnerability to anxiety, depression and low self-esteem, and enduring cognitive biases affecting the processing of negative events and experiences. The latter emerge from the consequences of adversity on expectations, and includes schematic beliefs about self and others, and distortions in attributional style, such as a tendency to attribute power and control to others (Birchwood *et al.* 2004; Garety *et al.* 2007).

Sündermann *et al.* (submitted for publication) recently suggested that the relationship between loneliness and paranoia may be mediated by affective processes such as anxiety or depression. This is because loneliness may distort thinking processes by exaggerating threat appraisals, or may make it harder for lonely patients to think of alternatives to their unusual ideas because they have no one to discuss them with. This may raise anxiety levels, leading in turn to increased paranoia.

Conclusion

Social relationships are important in facilitating recovery in psychosis. Social support, or the lack of it, shapes many of the affective changes and cognitions seen as significant in the development and maintenance of psychotic symptoms. This complementarity implies potential mechanisms linking deficits in social support and psychosis. The field is open for further research. It would be particularly helpful to design and test cognitive behavioural interventions aimed specifically at the perceived effects of poor social support in psychosis, in a productive way. Focusing on the mitigation of cognitions that relate to loneliness is likely to be a helpful starting point.

Conflict of Interest

None

O. Sündermann[1], J. Onwumere[1], P. Bebbington[2] and E. Kuipers[1,3]

[1]*Department of Psychology, King's College London, Institute of Psychiatry, London, UK*
[2]*Mental Health Sciences Unit, Faculty of Brain Sciences, University College London, London, UK*
[3]*NIHR Biomedical Research Unit, King's Health Partners, London, UK*

References

Alloway R, Bebbington P (1987). The buffer theory of social support: a review of the literature. *Psychological Medicine* **17**, 91–108.

Angell B, Test MA (2002). The relationship of clinical factors and environmental opportunities to social functioning in young adults with schizophrenia. *Schizophrenia Bulletin* **28**, 259–271.

Barrowclough C, Tarrier N, Humphreys L, Ward J, Gregg L, Andrews B (2003). Self-esteem in schizophrenia: relationships between self-evaluation, family attitudes, and symptomatology. *Journal of Abnormal Psychology* **112**, 92–99.

Bebbington P, Kuipers E (1994). The predictive utility of expressed emotion in schizophrenia. *Psychological Medicine* **24**, 707–718.

Bertrando P, Beltz J, Bressi C, Clerici M, Farma T, Invernizzi G, Cazzullo CL (1992). Expressed emotion and schizophrenia in Italy. A study of an urban population. *British Journal of Psychiatry* **161**, 223–229.

Birchwood M, Gilbert P, Gilbert J, Trower P, Meaden A, Hay J, Murray E, Miles JN (2004). Interpersonal and role-related schema influence the relationship with the dominant "voice" in schizophrenia: a comparison of three models. *Psychological Medicine* **34**, 1571–1580.

DeNiro DA (1995). Perceived alienation in individs with residual-type schizophrenia. *Issues in Mental Health Nursing* **16**, 185–200.

Duberstein PR, Conwell Y, Conner K, Eberly S, Evinger J, Caine E (2004). Poor social integration and suicide: fact or artifact? A case-control study. *Psychological Medicine* **34**, 1331–1337.

Fowler D, Hodgekins J, Garety P, Freeman D, Kuipers E, Dunn G, Smith B, Bebbington PE (2012). Negative cognition, depressed mood, and paranoia: a longitudinal pathway analysis using structural equation modeling. *Schizophrenia Bulletin* **38**, 1063–1073.

Garety PA, Bebbington P, Fowler D, Freeman D, Kuipers E (2007). Implications for neurobiological research of cognitive models of psychosis: a theoretical paper. *Psychological Medicine* **37**, 1377–1391.

Garety PA, Fowler DG, Freeman D, Bebbington P, Dunn G, Kuipers E (2008). Cognitive–behavioural therapy and family intervention for relapse prevention and symptom reduction in psychosis: randomised controlled trial. *British Journal of Psychiatry* **192**, 412–423.

Gayer-Anderson C, Morgan C (2013). Social networks, support and early psychosis: a systematic review. *Epidemiology and Psychiatric Sciences* **22**, 131–146.

Green LR, Richardson DS, Lago T, Schatten-Jones EC (2001). Network correlates of social and emotional loneliness in young and older adults. *Personality and Social Psychology Bulletin* **27**, 281.

Holt-Lunstad J, Birmingham W, Jones BQ (2008). Is there something unique about marriage? The relative impact of marital status, relationship quality, and network social support on ambulatory blood pressure and mental health. *Annals of Behavioral Medicine* **35**, 239–244.

Lakey B, Orehek E (2011). Relational regulation theory: a new approach to explain the link between perceived social support and mental health. *Psychological Review* **118**, 482.

Morgan C, Kirkbride J, Hutchinson G, Craig T, Morgan K, Dazzan P, Boydell J, Doody GA, Jones PB, Murray RM, Leff J, Fearon P (2008). Cumulative social disadvantage, ethnicity and first-episode psychosis: a case-control study. *Psychological Medicine* **38**, 1701–1715.

Neeleman J, Power MJ (1994). Social support and depression in three groups of psychiatric patients and a group of medical controls. *Social Psychiatry and Psychiatric Epidemiology* **29**, 46–51.

Onwumere J, Kuipers E, Bebbington P, Dunn G, Freeman D, Fowler D, Garety P (2009). Patient perceptions of caregiver criticism in psychosis: links with patient and caregiver functioning. *Journal of Nervous and Mental Disease* **197**, 85–91.

Pharoah F, Mari J, Rathbone J, Wong W (2006). Family intervention for schizophrenia. *Cochrane Database of Systematic Reviews* Issue 4.

Sensky T, Turkington D, Kingdon D, Scott JL, Scott J, Siddle R, O'Carroll M, Barnes TR (2000). A randomized controlled trial of cognitive-behavioral therapy for persistent symptoms in schizophrenia resistant to medication. *Archives of General Psychiatry*, **57**, 165.

Sündermann O, Onwumere J, Kane F, Morgan C, Kuipers E (submitted for publication). Social networks and support in first episode psychosis: exploring the role of loneliness and anxiety.

Thoits PA (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior* **52**, 145.

Wing JK (1978). Reasoning about Madness. Cambridge University Press, London.