

Aggression and trauma experiences among carer-relatives of people with psychosis

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Abstract

Background Exposure to aggression and associated psychological outcomes are poorly characterised among carer-relatives of people with psychosis.

Method Carer-relatives ($N = 106$) completed questionnaires assessing socio-demographics and perceived prevalence of aggression in their caring role in the last 12 months. Carers exposed to moderate–severe levels of aggression were re-approached to assess PTSD and coping strategies.

Results Most respondents (77.4%) reported experiencing moderate–severe levels of aggression. Increased contact with ($M = 15.12$ vs. $M = 6.71$ days per month), and significantly higher ratings of affective, antisocial, negative and psychotic symptomology in affected relatives were associated with experiences of moderate–severe aggression. Approximately half of the moderate–severe respondents reported potentially significant levels of PTSD (52%, $N = 34$), which was associated with greater exposure to verbal aggression and increased usage of coping strategies.

Conclusions Comparable ratios of physical to non-physical aggression to those reported by professional carers

working in acute psychiatric treatment settings were reported. Carer-relatives require greater levels of information and support to assist them in their community caring roles.

Keywords Schizophrenia · Family caregivers · Domestic violence · Aggression · PTSD · Coping

Introduction

Aggression carried out by people with psychosis has been investigated largely in the context of psychiatric inpatient units [13, 22, 30, 37] and outpatient services [38, 39, 43], and the impact of such aggression has been measured on psychiatric nursing staff [8, 9, 29, 45] and the relatives of recently hospitalised patients [15, 23, 42, 43]. Exposure to physical aggression has been associated with increased levels of posttraumatic stress disorder (PTSD) in psychiatric nursing staff [10, 45], while exposure to verbal aggression is associated with lowered staff morale [4]. Our group has examined risk factors for aggression in psychiatric inpatient units, finding that serious (i.e. physical) aggression was associated with younger patient age, personality disorder, less serious (i.e. verbal) aggressive incidents, longer duration of hospital stay and subsequent unplanned early readmission [11]. One in five admissions involved physical aggression, and reports of non-physical or verbal aggression were five times more frequent than the reports of physical aggression. These findings indicate that aggressive behaviour is common in inpatient facilities, and other studies describe its adverse impact on nursing staff [4, 10, 29, 45]. However, the extent to which aggressive behaviour occurs beyond the bounds of inpatient units and how it impacts upon relatives in the course of daily life in

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the home is less well known. The current study builds on previous research by examining the experiences of non-professional carers of people with psychosis in the community; that is, the carer-relatives of people with psychosis.

Factors associated with experiences of aggression in carers

The shift towards greater community care options for people with psychosis [35] has seen the burden of such care fall increasingly on the relatives of people with psychosis. While there is evidence that carer-relatives of people affected by psychosis are exposed to a range of aggressive behaviours [15, 21, 23, 28], which can be emotionally distressing [23, 42, 43], little is currently known about the experiences of carer-relatives whose affected family member has not recently been hospitalised or in other close contact with mental health services. In particular, the associations in the community between patient symptomatology, aggressive behaviours and the responses of carers remain unclear. Similarly, in inpatient settings, steps are commonly taken to manage aggression (i.e. higher dosages of drugs, seclusion, comprehensive nursing care, etc.) that also help to obscure the identification of such associations [40, 41]. There is some evidence that high levels of positive psychotic symptoms are risk factors for violent behaviours [34, 40] in inpatient settings, but whether a similar association applies in the community in patient–carer relationships requires further study.

Previous research, using models of stress and coping [14, 24], has identified some factors which may mediate the relationship between potentially distressing events and psychological outcomes in carer-relatives. These include subjective appraisal by the carer-relative of the affected person's psychotic symptoms and behaviours [2, 5], the level of threat posed by the aggression [7, 18, 32], the carer's attributions concerning the cause of the aggression [2], and the carer's use of coping strategies when exposed to aggression [17]. The carer's appraisal of the severity of aggression [5], particularly high threat appraisal [7, 14, 18, 32], and self-blaming for illness events [2, 17] have all been associated with higher levels of carer distress, as have negative or emotion focused coping strategies [27]. Determining patterns of appraisal and coping strategies in the relatives exposed to aggression may suggest areas for targeting supportive interventions in this population.

Community drawn sample of carer-relatives

The carer-relatives selected in this study were recruited from a community research register, the Schizophrenia

Research Register [25]. This is an Australian medical research resource that assists with the identification of people with schizophrenia and their first-degree family members who might be willing to participate in various research projects. The first-degree relatives enrolled in the Register provided a pool of individuals from which we were able to identify those engaged in providing care for a person with psychosis over the past 12 months.

Purpose of this paper

This study aims to investigate reported experiences of aggression and trauma in a community derived sample of carer-relatives, and to examine those factors that might influence exposure to aggression and psychological well-being in this group. We predicted that a sizeable proportion of the carer-relatives recruited through the Register would report experiences of moderate to severe aggression, and that these would consist primarily of verbal rather than physical aggression. We also predicted that exposure to such levels of aggression would be associated with self-reported PTSD symptoms by carer-relatives. A third hypothesis was that PTSD symptoms in the carer-relatives would be influenced by their appraisal of the aggression and the use of coping strategies.

Materials and methods

Subjects

One hundred and fifty-five first-degree relatives of individuals with psychosis listed on the Schizophrenia Research Register [25] were approached and gave consent to participate in this study. Of these, 106 (69%; $N = 89$ females, $N = 17$ males), identified themselves as having no personal history of psychosis (see below), were in a direct caring relationship of a relative with a psychotic disorder during the previous 12 months, and returned all self-report questionnaires. Demographic data (i.e. age, gender, marital status and health service region) provided by all first-degree relatives at the time of their enrolment in the Register were used to compare the respondents with those who consented to participate in the study but did not return questionnaires ($N = 49$). No significant differences between groups were found. Carer-relatives who reported experiences of moderate to severe levels of aggression (see below) were sent two additional measures to assess the impact of the aggression on their psychological wellbeing and their coping strategies. Of the 82 carer-relatives eligible for this part of the study, 66 (81%) returned questionnaires.

Measures and procedure

Ethics approval for this study was obtained from the University of Newcastle Human Research Ethics Committee. Apart from standard demographic items, additional questions were included to assess the relationship of the affected relative to the care-giver, the estimated days per month of contact with the affected person, the affected person's age, gender, clinical diagnosis, and presence/absence of psychiatric hospitalisations in the past 12 months. The family questionnaire [33] was used for carer-relatives to rate the frequency of symptoms commonly associated with psychosis (negative symptoms; antisocial behaviours; interpersonal problems; affective symptoms; psychotic symptoms) displayed by their affected family member. The psychosis screening questionnaire [3] was used to exclude carer-relatives with a personal history of psychosis. The perceptions of prevalence of aggression scale [POPAS: 31] was used to measure the frequency and severity of aggression directed at the respondent in the past 12 months. The POPAS assesses exposure to 16 different items of aggression, including passive-aggressive and self-directed aggressive behaviours, using a 5-point Likert scale (0 'never', 1 'occasionally', 2 'sometimes', 3 'often', 4 'frequently'). One item (i.e. frequency of sick leave taken as a result of violence) was removed from the scale because of its irrelevance to this project. An adapted version of the trauma interview [6] was used to measure threat appraisal (e.g. blame, concern regarding future aggression, perceived life threat). Blame and concern were each rated on 3-point Likert scales (1–3) and perceived threat to life was rated on a yes/no basis. Distress was measured using the depression, anxiety and stress scale [DASS: 26].

For the respondents who reported exposure to moderate to severe levels of aggression, the impact of event scale-revised [IES-R: 44] was used to measure PTSD symptoms and the ways of coping questionnaire [WOCQ: 16] to assess coping strategies (i.e. problem-focused, wishful thinking, detachment; seeking social support; focusing on the positive; self blame; tension reduction; and self-isolation) on a 4-point Likert scale (i.e., 1 'not used', 2 'used somewhat', 3 'used quite a bit', 4 'used a great deal'). Respondents were instructed to complete these two assessments with respect to the aggressive incident(s) reported in the POPAS.

Data analysis

Data analysis was conducted using SPSS v14.0 statistical software. A significance level of $P < 0.01$ was set for all analyses, as a partial correction for multiple statistical comparisons.

POPAS scores for the 15 items were factor analysed using an oblique rotation. Four factors with eigenvalues greater than 1.0 were identified, which explained 66.8% of the total variance. On the basis of this analysis, each item was allocated to one of the four factors (verbal, 5 items; physical 4 items; self-directed, 4 items; and sexual aggression, 2 items) (see Table 1); although 'threatening verbal aggression' loaded on both the verbal and physical factors (because it covered a range of issues, including verbal threats about possible future physical aggression), it was assigned to the verbal aggression factor. Individual scores for these factors were calculated by adding the raw item scores and dividing by the number of items. In addition, binary categorical scores were calculated for each factor: 'none/mild aggression' versus 'moderate/severe aggression'. Verbal aggression was classed as 'moderate/severe' if the respondent reported that the aggression occurred 'sometimes' or more frequently on any one of the five items in the verbal factor. 'Occasional' verbal aggression was effectively classified as 'none/mild aggression' because it was assumed that some level of verbal aggression may be considered acceptable in many families. For the remaining factors, aggression was classed as 'moderate/severe' if respondents reported that aggression occurred more frequently than 'never'.

Indices for the adapted trauma interview questions were created for blame and concern by treating respondent ratings on the 3-point Likert scales as continuous values, while threat to life was measured as a categorical (yes/no) variable. A total DASS score was created by summing each participant's DASS subscale scores. Total IES-R scores were produced and, based on the optimum diagnostic threshold for PTSD symptoms proposed by Creamer et al. [12], a score of 33 or above was regarded as a 'high likelihood of PTSD', while scores below 33 were classified as a 'low likelihood of PTSD'. Frequency of use of positive coping strategies was calculated by averaging ways of coping questionnaire scores for 'problem focused coping', 'seeking social support', 'focusing on the positives' and 'tension reduction' subscales, while frequency of the use of negative coping strategies was calculated by averaging scores for 'wishful thinking', 'detachment', 'self blame' and 'keep to self' subscales.

Results

Sample characteristics

The left-hand columns of Table 1 report POPAS item and factor profiles for the 106 respondents who met the inclusion criteria. Respondents were divided into two overall POPAS subgroups: 'none/mild aggression' ($N = 24$, 22.6%) versus

Table 1 Perceptions of prevalence of aggression scale (POPAS): item profiles and factor loadings ($N = 106$)

Factor items	Mean rating	SD	Aggression factor			
			Verbal	Physical	Self-directed	Sexual
Verbal aggression	1.55	1.27	0.77			
Threatening verbal aggression	1.00	1.28	0.48	-0.48		
Humiliating aggressive behaviour	0.85	1.78	0.70			
Provocative aggression behaviour	0.97	1.31	0.81			
Passive aggressive behaviour	1.20	1.37	0.82			
<i>Verbal factor</i>	<i>1.11</i>	<i>1.06</i>				
Threatening physical behaviour	0.72	0.97		-0.68		
Destructive aggressive behaviour	0.57	0.91		-0.72		
Mild physical violence	0.54	0.96		-0.63		
Severe physical violence	0.12	0.51		-0.82		
<i>Physical factor</i>	<i>0.49</i>	<i>0.67</i>				
Mild violence against self	0.47	0.88			0.77	
Severe violence against self	0.24	0.68			0.86	
Suicide attempts frequency	0.43	0.74	0.35		0.71	
Completed suicides frequency	0.16	0.42			0.54	
<i>Self-directed factor</i>	<i>0.33</i>	<i>0.52</i>				
Sexual intimidation/harassment frequency	0.25	0.60				0.86
Sexual assault/rape frequency	0.05	0.21	-0.31			0.71
<i>Sexual factor</i>	<i>0.15</i>	<i>0.35</i>				

Only factor loadings above ± 0.30 are shown

'moderate/severe aggression' ($N = 82$, 77.4%) with the latter subgroup including everyone with 'moderate/severe aggression' on any of the four factors. Table 2 summarises the characteristics of the sample of carer-relatives as well as providing comparisons between the aggression status subgroups. The respondents were aged 19–86 years (mean = 54.6 years, $SD = 13.7$), 84% were female, approximately two in five were the primary carer, and on average they spent around 13 days per month in direct contact with the affected family member. Clinical diagnoses of the affected family member were mostly schizophrenia (88.7%), of whom the majority were males (58.5%) with a mean age of 42.7 years, and 84.0% ($N = 89$) had not been hospitalised over the last 12 months. Overall, verbal aggression was reported to occur with the greatest frequency, followed by physical, then self-directed and sexual aggression.

Comparison of aggression subgroups

Analysis of variance and Pearson's Chi-square statistics were performed to compare the aggression subgroups. As shown in Table 2, no significant differences were found for age, gender, or caregiver's status, nor were there significant differences between subgroups in terms of their affected family member's profile, with similar patterns for age, gender, diagnoses, rates of hospitalisation and relationship to

carer being observed between subgroups. However, respondents in the moderate/severe aggression group had significantly more contact with their affected relative ($F_{(1,104)} = 8.56$, $P = 0.004$), and showed a statistically non-significant trend to be younger ($F_{(1,102)} = 4.14$, $P = 0.045$) and their affected family members were rated as having greater affective ($F_{(1, 97)} = 14.89$, $P < 0.001$), antisocial ($F_{(1,101)} = 15.02$, $P < 0.001$), negative ($F_{(1,101)} = 12.99$, $P < 0.001$) and psychotic ($F_{(1,101)} = 7.67$, $P = 0.007$) symptoms, with a statistically non-significant trend towards poorer interpersonal functioning ($F_{(1,100)} = 4.48$, $P = 0.037$), compared with those being cared for in the none/mild aggression subgroup. Carer-relative subgroups based on aggression exposure did not differ on DASS scores and both were within the normal range for DASS.

Characteristics of moderate/severe aggression

To investigate patterns of violence within the moderate/severe aggression subgroup, paired samples t tests were conducted to compare scores on the verbal, physical, self-directed and sexual aggression factors. Analyses revealed that these carers were exposed to significantly more verbal ($M = 1.39$, $SD = 1.05$) than physical ($M = 0.63$, $SD = 0.71$; $t_{(81)} = 7.86$, $P < 0.001$), self-directed ($M = 0.42$, $SD = 0.56$; $t_{(81)} = 7.77$, $P < 0.001$) and sexual ($M = 0.19$, $SD = 0.39$; $t_{(81)} = 9.81$, $P < 0.001$) aggression. There was

Table 2 Characteristics of carers and their affected family members by exposure to aggression status

Characteristics	POPAS factor subgroups		
	Overall	None/mild aggression	Mod/severe aggression
Sample size	106	24	82
Mean age (SD)	54.60 (13.67)	59.50 (12.54)	53.13 (13.73)
% Female	84.0	79.2	85.4
% Primary carer	40.6	33.3	42.7
Days of contact with affected relative per month (SD)	13.22 (12.83)	6.71 (9.86)	15.12 (13.02)*
Affected family member's relationship to carer			
% Offspring	49.1	50.0	48.8
% Sibling	32.1	41.7	29.3
% Parent	18.9	8.3	22
Characteristics of the affected family member			
Mean age (SD)	42.70 (16.58)	44.08 (15.06)	42.29 (17.06)
% Male	58.5	62.5	57.3
% Schizophrenia	88.7	83.3	90.2
% Schizo-affective disorder	9.4	16.7	7.3
% Other	1.9	0	2.4
% Not hospitalised in last 12 months	84.0	95.6	80.5
Av.Hosp.Adm./12mths (SD)	0.25 (0.71)	0.04 (0.20)	0.32 (0.78)
Affected family member's symptoms (family questionnaire frequency totals)			
Affective	14.46	11.87	15.25**
Antisocial	16.25	12.87	17.23**
Interpersonal	15.80	13.82	16.35
Negative	18.57	15.52	19.45**
Psychotic	12.33	10.52	12.85*
DASS (Carer-relative)			
Depression	5.59	4.87	5.79
Anxiety	4.03	2.61	4.43
Stress	8.13	6.96	8.46
Total	17.74	14.44	18.68
POPAS (mean scores: group defining variable)			
Verbal aggression	1.11	0.18	1.39
Physical aggression	0.49	0.00	0.63
Self-directed aggression	0.33	0.00	0.42
Sexual aggression	0.15	0.00	0.19

Pattern of significant differences between aggression subgroups:
* $P < 0.01$, ** $P < 0.001$

also a statistically non-significant trend towards more physical than self-directed aggression ($t_{(81)} = 2.37$, $P = 0.02$), but significantly more physical than sexual aggression ($t_{(81)} = 5.20$, $P < 0.001$) and more self-directed than sexual aggression ($t_{(81)} = 3.21$, $P = 0.002$).

Appraisal of threat and blame

We examined the presence of high threat appraisal by carer-relatives in response to aggressive incidents, as indicated by the trauma questionnaire within the total sample, 7.5% ($N = 8$) of carers did not respond to any

threat appraisal question. Seven of these did not report being exposed to any form of aggression in their contact with their affected family member on the POPAS and one reported exposure to the completed suicide of their affected relative but no other aggressive instances. Of the 98 participants who responded to threat appraisal questions, 23.6% ($N = 25$) reported that when aggression had occurred, they had believed their life to be in danger. In expressing attribution of blame when aggression had occurred, carer's mean ratings suggested that they primarily blamed the illness ($M = 2.55$, $SD = 0.72$), followed by their affected family member ($M = 1.60$,

SD = 0.73) and themselves ($M = 1.33$, SD = 0.57). Paired sample t tests revealed that carers blamed the illness significantly more than they blamed their relative ($t_{(97)} = 9.13$, $P < 0.001$) and blamed their relative significantly more than they blamed themselves ($t_{(97)} = 3.42$, $P = 0.001$). In reporting levels of concern that aggression would occur again in the future, carers overall were concerned 'to some degree' ($M = 1.94$, SD = 0.73).

Associations with PTSD symptomatology

As shown in Table 3, of the 82 respondents who reported exposure to moderate/severe aggression, 66 returned questionnaires assessing PTSD symptoms and coping strategies, of whom 34 (51.5%) reported an IES-R score of 33 or more and were assigned to the 'high likelihood of PTSD' subgroup. Once again, analysis of variance and Chi-square analyses were used to compare these two subgroups, but no significant differences for age, gender, primary carer status, or contact patterns were found. The characteristics of the affected family member also did not differ between subgroups nor did rates of hospitalisation in the last 12 months. There were statistically non-significant trends for the high likelihood of PTSD subgroup to report higher frequencies of psychotic ($F_{(1,62)} = 6.07$, $P = 0.017$) symptoms and interpersonal problems ($F_{(1,62)} = 4.31$, $P = 0.042$) in their affected family member compared with those in the low PTSD subgroup.

With respect to the DASS, the high likelihood of PTSD subgroup showed significantly elevated total scores ($F_{(1,64)} = 8.29$, $P = 0.005$) and stress subscale scores ($F_{(1,63)} = 8.35$, $P = 0.005$) suggesting that they were more over-aroused, unable to relax, irritable, easily upset or startled and intolerant of interruption or delay than were the carers in the low PTSD subgroup. They also displayed statistically non-significant trends towards higher depression ($F_{(1,63)} = 5.27$, $P = 0.025$) and anxiety ($F_{(1,63)} = 6.66$, $P = 0.012$) scores. Exposure to verbal aggression ($F_{(1,64)} = 7.29$, $P = 0.009$), but not physical, self-directed or sexual aggression, was also significantly higher in the high likelihood of PTSD subgroup.

A $2 \times (2)$ repeated measures analysis of variance (PTSD trauma status by positive versus negative coping strategies) revealed that the high PTSD subgroup used coping strategies more frequently than the low PTSD group ($F_{(1,63)} = 19.90$, $P < 0.001$); however, there were no differences between the trauma subgroups on frequency of use of positive and negative strategies. A non-significant trend for carers to use positive coping strategies ($M = 1.26$, SD = 0.60) more frequently than negative coping strategies ($M = 1.12$, SD = 0.47) was also observed ($F_{(1,63)} = 3.46$, $P = 0.07$). No significant differences between subgroups were found on any measure of threat appraisal.

Discussion

This study investigated self-reported exposure to aggression experienced by carer-relatives of people with psychosis over a 12-month period. An astonishing 77.4% reported exposure to aggression at moderate to severe levels, with more than one-fifth (23.6%) of the sample reporting that they had feared for their lives as a consequence. Comparisons of these results to rates and patterns of aggression reported in the literature suggest that carer-relatives in this study were exposed to aggression that was similar in form but of lesser frequency than that reported by nursing staff in inpatient treatment settings [11, 29].

Characteristics of carers, affected-relatives and aggression

Women made up the majority of carer-relatives in this study (84%), as is traditionally observed in most communities. Carers responding to the study were predominantly parents (49.1%) of the affected family member, caring for male relatives (58.5%), which is similar to the findings of comparable studies of carer-relatives [2, 36, 43]. On average, carer-relatives were in direct contact with the affected family member for approximately 13 days per month, but those reporting exposure to moderate/severe aggression were in more frequent contact (15.12 days per month) than those reporting no or mild levels of aggression (6.71 days per month). This suggests that the more aggressive patients were in relationships of higher dependency requiring closer supervision than those displaying no or mild aggression. The subjective symptom ratings reported by carer-relatives suggest that the affected relatives were symptomatic across a number of domains, and that all domains of symptom ratings, including antisocial and psychotic symptoms, were higher in the affected relatives who displayed moderate/severe aggression, with the exception of interpersonal symptoms. Notwithstanding these ratings, rates of hospitalisation in the previous 12 months were quite low (84% of affected relatives had not been admitted to hospital), suggesting that acute relapse had not been a common occurrence within the framework of this study.

Carer-relatives reported exposure to a broad range of aggressive behaviours, including verbal, physical, self-directed and sexual aggression. The most frequent of these was verbal aggression. High frequency of verbal aggression has been reported previously by both relative-carers [43] and nursing staff [11, 29] caring for people with schizophrenia. Studies investigating aggressive experiences among psychiatric nursing staff [29] report levels of verbal, physical and self-directed aggression that are roughly three times the frequency reported by our carer-

Table 3 Profile of carers reporting moderate-severe levels of aggression in their caring role by PTSD status

Characteristics	Overall	IES-R trauma subgroups	
		Low likelihood of PTSD	High likelihood of PTSD
Sample size	66	32	34
IES-R (group defining variable)	31.23	16.81	44.79
Carer characteristics			
% Female	86.4	81.3	91.2
% Primary carer	40.9	40.6	41.2
Mean age (SD)	52.55 (13.72)	52.16 (12.66)	52.91 (14.81)
Days of contact with affected relative per month (SD)	15.39 (13.16)	15.84 (13.21)	14.97 (13.29)
Affected relative			
Mean age (SD)	42.76 (17.47)	39.75 (17.01)	45.59 (17.68)
% male	53.0	59.4	47.1
% Schizophrenia	87.9	84.4	91.2
% Not hospitalised in last 12 months	80.3	81.3	79.4
Av. hosp. adm./12 months (SD)	0.32 (0.78)	0.25 (0.62)	0.38 (0.92)
Affected relative's symptoms (family questionnaire frequency totals)			
Affective	15.62	15.65	15.60
Antisocial	17.44	17.47	17.41
Interpersonal	16.98	15.72	18.25
Negative	20.05	19.81	20.28
Psychotic	13.05	11.97	14.13
DASS (carer-relative)			
Depression	6.11	3.59	8.55
Anxiety	4.68	2.50	6.79
Stress	8.62	5.41	11.73*
Total	19.40	11.50	27.06*
POPAS (mean scores)			
Verbal aggression	1.52	1.18	1.85*
Physical aggression	0.64	0.60	0.68
Self directed aggression	0.46	0.43	0.49
Sexual aggression	0.19	0.13	0.25
WOCQ (mean scores)			
Positive strategies	1.26	1.02	1.50
Negative strategies	1.12	0.93	1.30
Total	1.19	0.98	1.40**
Threat appraisal (1-3)			
Blamed self	1.35	1.31	1.38
Blamed the illness	2.67	2.69	2.65
Blamed relative	1.71	1.69	1.74
Concerned it would occur again	2.05	2.00	2.09
% Believed life was in danger	30.3	21.9	38.2

Pattern of significant differences between trauma subgroups:
* $P < 0.01$, ** $P < 0.001$

relative sample, with nursing staff experiencing a slightly higher proportion of sexual violence than was reported in our sample. While it is expected that acutely ill patients in inpatient settings would display higher levels of aggression than those living in the community, our findings indicate that the level of aggression to which relative-carers are exposed by affected family members is by no means trivial,

as reflected in the proportion who feared for their lives, but surprisingly, by itself, is not associated with higher levels of psychological distress on the part of carer-relatives, as measured by the DASS.

In the current study, 21.7% ($N = 23$) reported extreme concern that aggression would occur again in the future and 23.6% ($N = 25$) reported fearing for their lives as a result

of the aggression experienced. Overall, nine carer-relatives in our community sample (8.5%) reported both, suggesting persistent concerns for their safety. This is about half the rate reported by Vaddadi et al. [43] who found that 15% of carer-relatives of recently admitted psychiatric inpatients reported living in fear of their affected family member.

Moderators of PTSD symptomatology

Of the carer-relatives who reported experiencing moderate–severe levels of aggression, 51.5% reported PTSD symptoms at a level (>33) consistent with a high likelihood of the diagnosis of a PTSD syndrome [12]. High PTSD scores were associated with significantly higher frequency of verbal aggression, but not other forms of aggression, and significantly greater levels of subjective stress as reported by the DASS. Indeed, total DASS scores were significantly higher in those reporting high PTSD symptoms. High frequency of verbal aggression has often been reported in professional and domestic carer situations [15, 23, 42], and has previously been related to distress and burden in the carer-relatives of people with psychosis [23]. Verbal aggression is also associated with burnout and low morale in inpatient care settings [4] and is a significant factor in carer distress, while associations with more ‘severe’ or physical forms of violence are far less robust [4, 23]. The current finding establishes a similar association between verbal aggression and trauma in a community carer-relative sample. It may be that reports of verbal aggression experienced by carers are dismissed or otherwise regarded as a minor behavioural issue in the caring relationship, but the findings from this study indicate an association of verbal aggression with significant PTSD symptoms and higher psychological distress on the DASS, suggesting that this is an issue that ought not to be dismissed lightly by clinicians and others with a role in assisting families.

The prediction that PTSD symptoms in the carer-relatives would be influenced by their subjective appraisal of the aggression was largely unsupported. Contrary to cognitive models of PTSD, which state that processing potentially traumatic events in ways that produce a sense of serious and current threat can influence the experience of PTSD [14], the high PTSD subgroup in our study did not display higher concern about future or past aggression than the low PTSD subgroup. One reason for this finding may be that the threat appraisal questions used in this study were weighted towards appraisal of physical threats, for which our groups did not differ. Similarly, while research into patterns of ‘blame’ have previously found that an increased belief that their affected relative could ‘exert control’ over their symptomatic behaviours [17] and ‘self-blame’ [2] are associated with increased distress, no

differences between the high or low PTSD subgroup in the pattern of blame were found. Overall, carers primarily blamed the illness for aggressive instances when they occurred, rather than blaming their relative or themselves, suggesting carers did not generally display patterns of blame considered maladaptive in relation to the above literature for coping with aggression. Hence, no association between patterns of blame and psychological distress was found, and carers appeared to display a largely adaptive pattern of attribution of aggression.

With respect to coping strategies, results suggest the high PTSD subgroup used coping strategies with more frequency when confronted with aggression, compared to the low PTSD group. However, there were no differences between PTSD groups on the type of coping strategies endorsed, with both groups displaying a tendency to use somewhat more positive than negative coping strategies when aggression occurred. This suggests carers experiencing high levels of distress adopt multiple modes of coping when confronted with aggression; however, these strategies are similar to those utilised by carers who are not highly distressed, suggesting the type of coping strategies employed by carers was not a significant factor in moderating distress in the current sample.

Limitations

There are several limitations to this study. It is possible that, despite appealing to carer-relatives both with and without experiences of aggression, the general focus of the study and the type of questions used may have attracted responses from carer-relatives who had experienced aggression, thus biasing the sample. Given that this was not primarily a study of the prevalence of aggression, but rather an analysis of factors associated with carer-relative’s experiences of a wide range of aggressive behaviours, the impact of this potential bias is likely to be minimal. It is further noteworthy that the current study lacked a comparison group of carers of relatives without psychosis. Consequently, it is unclear to what degree the current observations are associated with the caring role in general as opposed to caring for a person affected by psychosis. However, as the aim of this study was to examine characteristics and factors associated with experiences of aggression in a particular carer group, this lack of comparison should have minimal impact on current observations and recommendations in relation to this population.

In this study, carer’s ratings of affected relative’s current symptomatology were assessed, to gauge what impact these had on their wellbeing. Previous research has indicated that carer-relatives ratings of patient symptomatology and problematic behaviours were indicative of carer

distress, while clinical assessments were not [5]. Future studies may benefit from including objective (e.g. treating physician or case manager) ratings of patient symptomatology and potential risks. The inclusion of a broader range of carer characteristics may also be useful (e.g. expressed emotion, conflict resolution strategies), since the research literature suggests possible links between carer hostility/critical comments, the perceived burden of the caring relationship [1, 5, 20] and poor patient illness outcomes [19].

Finally, it should be noted that there was no assessment of PTSD symptomatology in carers who did not report aggression. As such, it is unclear to what degree the observed distress was related to carer exposure to aggression, though current factors identified as moderators of distress (i.e. high frequency of verbal aggression) in this aggression-exposed sample remain important in formulating tools for managing distress in carer-relatives of people with psychosis.

Conclusions

The current study reported on the experiences of aggression in carer-relatives of people with psychosis recruited from the community. A large proportion of carer-relatives reported experiencing moderate to severe levels of aggression, primarily verbal aggression, which was associated with increased perceived symptomatology and greater average daily contact with the affected relative. Increased frequency of verbal aggression was also associated with greater distress and a high level of PTSD symptomatology in carer-relatives. Greater attention should be paid to the support needs of carer-relatives who are faced with potentially life threatening aggressive behaviour by psychotic family members. Mental health staff need to consider in their treatment plans the impact of manifest symptoms, contact patterns with carers and respite options, before discharging individuals with psychosis into the care of relatives, who have no professional training to support them in this role. To preserve the wellbeing of carers, a range of approaches need to be explored, including: increased psycho-education about the potential impacts of verbal aggression; increased family involvement in long-term care plans; specific aggression minimisation interventions; and fostering contact with existing support networks for carers.

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