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ORIGINAL CONTRIBUTION

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Inner city disadvantage and family functioning

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Abstract The co-existence of types of social, environmental and family disadvantage and domains of family dysfunction is explored through individual interviews and use of the Family Assessment Device in a cross-sectional study of 143 inner city families. The dependence upon social welfare by the family and the overall degree of disadvantage experienced both correlate significantly with all forms of family dysfunction. Marital disruption, poor physical care of the home or of the child(ren) and poor quality of mothering correlate significantly with difficulties both in role allocation and in affective involvement. Those families suffering more types of environmental disadvantage are more likely also to be dysfunctional in each domain of family life. Some possible mechanisms for these associations are highlighted and their implications for planning of effective interventions discussed.

Key words Disadvantage – adversity – resilience – family functioning

Introduction

In recent years social, environmental and family disadvantage and their effects have increasingly been the focus of political, sociological and medical studies (4–6, 15, 21). The relationship between the overall degree of disadvantage experienced by a family and the likelihood of childhood behavioural disturbance has been investigated in New Zealand (9, 10), in the USA (20) and in Germany (3). In each of these, greater familial disadvantage or adversity was clearly linked to increased risk of disturbance within the children, although this association tended to be weaker in older children (3). Disturbed family functioning has been postulated as one link between social and family adversity and childhood disturbance (10, 20) but the focus of these studies has been upon the functioning of the individual child and not upon that of the family or upon family relationships separate to adversity. Despite the extensive body of research into the family and aspects of family functioning there has been little formal study within individual families of the relationships between disturbance of family functioning and degree of disadvantage experienced.

The existence of a relationship between family and environmental disadvantages and disturbed family functioning is well accepted although its precise nature has not been fully explored. Until now present conceptions have tended to owe more either to demographic studies associating population variables or to psychodynamic or political and social theories than to any systematic empirical study of a cohort of individual families (4, 21, 22).

Previous research (12–15) has defined six particular types of environmental disadvantage, which may have predictive utility. These are the dependence of the family

upon social welfare, poor parental health, marital disruption, poor physical care of the child or home, poor quality of mothering and parental educational disadvantage. This paper reports on data from a further study of 143 inner city families each individually studied in depth as to the extent of these disadvantages that they were experiencing and for aspects of family dysfunction. Other aspects of this study including the beneficial effects to the children of play therapy intervention have been reported elsewhere (1, 2, 11).

Hypothesis

The initial hypothesis was that there would be significant specific associations between the various forms of social, environmental and family disadvantage and the different types of family dysfunction. A cross-sectional study cannot yield definitive information regarding causal mechanisms but by postulating in advance which specific associations might be found it can test some hypotheses regarding possible linkages and interactions.

Our basic hypothesis is that social and family disadvantage links adversely with a family's ability to function across a range of domains. There is the further question: *is any individual type of disadvantage adversely linked to particular areas of how a family might function?* Here secondary hypotheses are that dependence upon social welfare (indicating significant financial stress or poverty) would be linked with impaired family functioning in a number of respects, that parental educational disadvantage could limit the potential of the family to develop healthy functioning particularly in developing successful problem solving strategies, and that multiple disadvantages and overall degree of disadvantage will be more linked to family dysfunction than will single and milder degrees.

Methods

The cohort

This study formed part of a larger project investigating the extent, effects and outcomes of degrees of disadvantage within families and children living within inner city Newcastle-upon-Tyne. The sample was a cohort of families whose children were attending their second year at one of seven primary schools within an Inner City Educational Priority Area of Newcastle-upon-Tyne. This sample was chosen as the prevalence of disadvantage was likely to be higher than in the general population as a whole. The children were selected by random sampling over two academic years and full informed consent to participate was sought from mothers. Less than 10% of families declined to participate. The total sample numbered 170 children but as some of these children were living within the same households it comprised only 143 families. At the time of the study in the mid-1980s there were high levels of unemployment throughout the United Kingdom with North Eastern England particularly affected (11). In this cohort of families the main breadwinner was unemployed in over 60% of cases and around 75% of the children were receiving free school meals (11) suggesting successful targeting of disadvantaged families.

Measures

The mothers were each interviewed by experienced research social workers using a combination of self-rating questionnaires and semi-structured interviews. These together enabled detailed information regarding the extent of disadvantage and assessment of family functioning to be obtained. The disadvantage data was gathered mainly from semi-structured interviews with mothers in their homes thereby also allowing direct observation of the fabric of the home and of mother-child interactions. Often additional information was also available from medical, social work or other statutory agencies. Assessment of family functioning was separately gathered by the mother's completion of a self-rating questionnaire, the Family Assessment Device (FAD) (8).

Disadvantage is a multi-faceted phenomenon and there is no agreed single measure or definition of it. Our previous research (12–15) has defined and studied six types of environmental disadvantage with predictive utility and of demonstrated reliability and validity (16) which encompass both material disadvantage and disadvantage due to impaired parental functioning. This is in line with the approach adopted in other studies of disadvantage. All have used broadly comparable multi-faceted measures although the precise definitions in each have varied slightly (3, 10, 20). The six items studied here are

- family dependence on social welfare (*DSW*) (receipt of social or welfare financial assistance);
- poor parental health (*PPH*) (significant physical ill health in either parent);
- marital disruption (*MD*) (single parenthood, separation/divorce, or serious marital strife);
- poor physical care of the child or home (*PPC*) (evidence of physical neglect or disregard);
- poor quality of mothering (*PQM*) (excessive criticism or hostility to child or lack of maternal warmth or understanding);
- parental educational disadvantage (*ED*) (no educational or vocational qualification).

The presence or absence of each of these for each family was assessed and rated for severity on a scale of 0–3 by the

research social worker utilising all information available. Previous work has established inter-rater reliability coefficients of between 0.85 and 0.9 and acceptable face and factorial validity for such data (16). Finally a composite disadvantage index (*DI*) on a scale of 0–6 was calculated for each family by summating the number of individual disadvantages experienced irrespective of their severity (coding each absent = 0 or present = 1).

Family functioning was assessed from the mother's completion of the Family Assessment Device (FAD) (8). This is a 60-item self-report questionnaire with well-established reliability and validity (17), which assesses family functioning within the dimensions of the McMaster Model of Family Functioning (7). The model focuses upon six domains in which it is possible to assess the quality of a family's functioning. These are

- problem solving (the family's ability to find and enact solutions to problems);
- communication (whether clear in both content and direction);
- roles (whether these are sufficient and well defined for family members);
- affective responsiveness (the range of emotional responses available to members);
- affective involvement (the interest and concern invested between members);
- behaviour control (the style of maintaining discipline and standards of behaviour).

The FAD derives a numerical score for each of these dimensions and a further score for "General Functioning" based upon responses to a selection of items across the dimensions. Examination of the distribution of scores obtained in this study revealed that for each sub-scale the median score was the same as or higher than the proposed cut-off figures (17). The median score was therefore used in bifurcation of subsequent analyses as this would ensure that only the most disturbed families were regarded as dysfunctional.

Analysis

In view of the quantitative nature of the data, associations were studied using correlational analyses of the scores obtained on individual types of disadvantage and those obtained from the subscales of the different dimensions of the FAD (Table 1). In this analysis only those correlations with a significance level of $p < 0.01$ are shown in order to focus upon those associations which are substantial and so unlikely to occur by chance alone. In order to gain a fuller understanding of the impact of multiple disadvantages this was further complemented by a chi-squared analysis of data by partitioning the FAD dimensional subscale scores above and below their median score against the overall degree of disadvantage (correction for continuity was not applicable in any analysis) (results in Table 2). In these latter analyses a level of $p < 0.05$ was regarded as significant.

Results

Extent of disadvantage

Many families were experiencing one or more types of environmental disadvantage (Table 3). The commonest types of disadvantage were dependence on social welfare, poor quality of mothering and educational disadvantage with about four fifths of the families being

Table 2 Frequency analysis of disadvantage index and family dysfunction

	Disadvantage index				
	0/1/2	3	4	5/6	
Number of families	30	43	43	27	
FAD dysfunction	%	%	%	%	Odds ratio
Problem Solving	20	44	51	63**	2.4
Communication	20	23	56	67****	5.8
Roles	27	37	58	82****	4.2
Affective Responsiveness	23	37	44	63*	2.3
Affective Involvement	23	40	58	78***	3.9
Behaviour Control	37	51	51	55	1.4
General Functioning	37	23	58	59**	3.7

Chi-squared: * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$; **** = $p < 0.0001$
Odds ratio relates to Disadvantage Index with cut off between 3 & 4

Table 1 Types of disadvantage and family functioning: correlation matrix

FAD dimensions	Disadvantage types						
	DSW	PPH	MD	PPC	PQM	ED	DI
Problem Solving	.32**		.25**	.22*			.37**
Communication	.31**	.20*	.20*		.20*	.20*	.38**
Roles	.45**		.20*	.34**	.20*	.29**	.44**
Affective Responsiveness	.31**			.27**			.25**
Affective Involvement	.31**			.32**	.23*		.36**
Behaviour Control	.32**		.24*		.21*		.31**
General Functioning	.29**		.28**				.34**

Only r > .2 shown: * = $p < 0.01$; ** = $p < 0.001$

European Child & Adolescent Psychiatry, Vol. 9, No. 2 (2000)

Table 3 Extent of disadvantage amongst 143 families

		This study n = 143		1000 Family	
		n	%	1952 %	1980 %
Individual types					
Dependence on Social Welfare (DSW)		128	89.5	17.5	24
Poor Parental Health (PPH)		47	32.9	12.2	22
Marital Disruption (MD)		60	42.0	14.5	27
Poor Physical Care (PPC)		33	23.1	12.6	16
Poor Quality of Mothering (PQM)		116	81.1	15.2	18
Educational Disadvantage (ED)		113	79.0	n/a	45
Disadvantage index (DI)					
Number of types present:	0/1/2	30	21.0	86.5	77
	3	43	30.1	7.2	11
	4	43	30.1	3.5	7
	5/6	27	18.9	2.9	4

(Comparative 1000 Family Study Data from Kolvin et al. (15))

coded as disadvantaged on these and with only between one and two fifths on the remaining three types. Multiple disadvantage proved widespread with approximately 80% of families experiencing at least three coexisting forms of disadvantage and around half the families experiencing four forms or more. These findings contrast with the much milder range of disadvantages found in the Newcastle 1000 Family Study. In that epidemiological study a full random sample of consecutive births from all areas of Newcastle-upon-Tyne was studied (15) and only between a quarter and a fifth of families were experiencing three or more types and only one in ten families four or more types. Whilst it was to be expected that an inner city sample would experience some increased degree of disadvantage these proved to be more extensive and pervasive than had been anticipated.

Correlations of nature and severity of disadvantage and family dysfunction

Initial analysis of product moment coefficients of the severity of the types of disadvantage and the subscale scores within the seven areas of family functioning defined by the FAD is demonstrated in Table 1. These correlations account for only a small proportion of the variance. The lower level of correlation significant at $p < 0.01$ (correlation 0.2) would account for only 4% of the variance. The highest correlations of around 0.45 account for approximately 20% of the variance.

Taking an initial overview focusing upon the number of correlations irrespective of their strength the indices of Dependence on Social Welfare, Marital Disruption and Overall Disadvantage are linked with the greatest number of dysfunctional areas of family functioning whilst the indices of Poor Physical Care and Poor Quality of Mothering are still linked to a majority of areas. However when viewed from the perspective of the seven domains of family functioning only those of problems in role allocation and dysfunctional communication are linked with the numerous criteria of disadvantage.

Focusing upon the magnitude of these correlations Dependence on Social Welfare, Poor Physical Care and overall extent of disadvantage (Disadvantage Index) are strongly linked with most styles of family dysfunction. Marital Disruption and Poor Quality of Mothering are moderately strongly associated to a range of areas but Poor Parental Health and Educational Disadvantage are only weakly linked to a few areas.

Looked at from the perspective of family dysfunction, difficulty in role allocation shows widespread significant correlation with all types of disadvantage bar poor parental health, whilst problems in effective communication appear to be linked with all types of disadvantage bar poor physical care, albeit at a slightly lower level of correlation. Problems within the realms of both affective involvement and affective responsiveness are each moderately linked with overall extent of disadvantage, dependence upon social welfare and poor physical care. Problem solving difficulties, poor behaviour control and poor general functioning are each only moderately linked with overall extent of disadvantage, dependence upon social welfare and marital disruption, with behavioural control also linking to poor quality of mothering.

Magnitude of disadvantage and family dysfunction

Table 2 cross-tabulates degrees of overall disadvantage and partitioned FAD scores and highlights the significant association between the overall degree of disadvantage within individual families and high or low levels of family dysfunction. It demonstrates a relationship

between the extent and degree of disadvantage experienced and the severity of family dysfunction. The greater the degree of disadvantage within a family, the higher the rate of family dysfunction. This is well exemplified in relation to poor communication, poor role allocation and poor affective involvement. In the last of these there is a step-wise increase presence of dysfunction from 23% to 40%, to 58%, to 78% as degree of disadvantage moves from low (0, 1 or 2 types) to moderate (3 types), to severe (4 types), to very severe (5 or 6 types) respectively. Examination of the Odds Ratios calculated by bifurcation of the disadvantage index (DI) between 3 and 4 illustrates this further.

Discussion

Weaknesses of the study

The cross-sectional, rather than longitudinal, nature of this study makes it possible only to demonstrate associations and not to draw any firm conclusions regarding causality. There are at least four potential models of explanation for any association between a particular form of disadvantage and a specific area of family dysfunction: firstly they may both arise from a single common origin; secondly they may be causally related (in either direction or indeed interactively); thirdly although seemingly distinct they may in fact be different aspects of the same phenomenon; fourthly there may be no relationship but rather a chance interaction may give a false impression of one. Examples of each of these relationships might be that of an individual's own personality functioning giving rise both to living under disadvantaged circumstances and to having poor problem solving skills (common origin model); that of poor problem solving leading to marital disruption or that of poor parental health giving rise to a lack of affective involvement (possible causal mechanisms); or that poor role definition, poor quality of mothering, poor physical care and poor affective involvement may have overlapping natures (different aspects of same phenomenon).

Inner city sample: even higher than expected widespread disadvantage

This study was of a cohort of families from an Inner City Priority Area and hence by definition high levels of overall disadvantage and the coexistence of differing types of disadvantage within the same family would be anticipated (11). However the strikingly high rates of disadvantage demonstrated are higher than were to be expected (15, 21). Furthermore the degree to which the different forms are overlapping and the extent of multiple disadvantages makes it difficult to isolate the associations and interactions linked with any individual type of disadvantage. Rutter and Madge (19), Coffield et al. (6), Brown and Madge (5) and Kolvin et al. (15) have all highlighted that multiple disadvantage exists in a variety of forms but each point out that disadvantage of one kind often attracts disadvantage of another.

Magnitude of correlations between disadvantage and family dysfunction

The correlations between degree of disadvantage and aspects of family dysfunction are all at moderate levels but highly significant thereby confirming the initial hypothesis that associations would exist. There are two factors, which may help explain why a stronger relationship was not detected. Firstly the widespread disadvantage and multiple disadvantage may tend to mask associations because any variation on relevant measures would be "truncated" (scores congregated at an extreme end) within such a deeply disadvantaged sample. Of greater importance however may be the concept of resilience within families; for example Kolvin et al. (11) have reported that the impact of social adversity may be mitigated by the buffering effect of family resilience whilst Ferguson and Lynskey (9) have similarly developed this argument in studying the links between experience of family adversity and likelihood of individual disturbance during adolescence.

Specific associations and possible mechanisms

We hypothesise the primacy of disadvantage or deprivation as so many of these families start their partnerships within the margins of disadvantage. Nonetheless some may have moved into disadvantage as a result of poor family functioning whilst in many there will be an interactional component in which disadvantage and family dysfunctions will exacerbate each other. Possible mechanisms of these relationships might include poor overall problem solving skills impacting upon the ability of the family to resolve social and economic difficulties thereby leading to dependence upon social welfare, to increase the likelihood of marital disruption, and to adversely affect the ability to deliver good physical care or quality mothering; poor communication patterns or inadequate adult role allocations linked with difficulty in resolving social and financial problems, greater likelihood of marital dysharmony, poorer physical care of child or home and poorer quality of mothering; poorer affective relationships and poor behaviour controls interacting with marital dysharmony and quality of mothering or physical care; and finally overall family dysfunction influencing all areas of disadvantage except that of parental educational level.

European Child & Adolescent Psychiatry, Vol. 9, No. 2 (2000)

The predicted associations between dependence upon social welfare and many aspects of poor family functioning were the strongest individual correlations. Dependence upon social welfare is often used as one of the criteria defining "poverty" and many authors have proposed mechanisms whereby poverty may adversely affect the family (4). These include its effects on poor morale, low self esteem, limited access to other resources and the impoverished quality of family relationships. Notwithstanding our prediction of this association and the support it gives to these explanatory models it still does not prove a causal relationship. It could be argued that a dysfunctional family from whatever cause may lack the internal wherewithal either to obtain adequate other material resources or to benefit from them and thereby come to depend upon social welfare.

The correlations between poor physical care of a child or home and poor affective involvement and role definition were also predicted. Our hypothesised explanatory model is that a perceived lack of physical care may not help to foster interpersonal warmth and may promote poor affective involvement. However an alternative, albeit less likely, explanation could be that either dissatisfaction in adult interpersonal relationships as expressed in poor affective involvement or a lack of clarity in task or role allocation might make delivery of adequate care less likely. It is also possible that both these mechanisms may be operating interactively in the association.

Although the individual correlations between both marital disruption and poor quality of mothering and any individual form of family dysfunction are less strong these two types of disadvantage are still associated with most areas of dysfunction. Less expected and predictable was the apparent weakness of associations between parental ill health or educational disadvantage and any aspect of family dysfunction. Whilst ill health may be transient it is well established that children of ill parents do suffer (18), and this is supposedly at least in part due to impaired delivery of child care (4). This could in part be due to the truncated nature of the sample so that there is insufficient spread of data but this explanation alone is insufficient. A further factor in the weak correlations could be in the measures used, e.g. the FAD is a self-rating instrument which whilst valid may have only limited sensitivity whereas the ratings of mothering quality were based upon both interviews and direct observation and assessment by experienced professionals.

Table 2 highlights the main areas of associations individual family by individual family. The finding that it is not specific areas of disadvantage but rather the overall degree of disadvantage irrespective of its precise nature that most predicts family dysfunction is in keeping with the research into individual dysfunction (3, 9, 10, 20).

Clinical implications

These findings may have relevance to the kinds of interventions, which may prove most effective in mitigating the effects of disadvantage and in enabling families to escape from it. Impaired communication patterns and lack of clarity in role definition and allocation could both usefully be the targets of a number of specific interventions including directed case work, social work counselling or formal family therapies and thereby perpetuating interactive cycles might be broken. Enabling and empowering individuals to understand and solve their own dilemmas would lead to a boosting of morale and of self esteem which could then further mitigate some of the adverse effects of living under poverty (4). The strength of associations involving parenting actions (as conceptualised in quality of mothering and quality of physical care) highlight the importance of effective parent training programmes.

However these clear associations between types of disadvantage and family dysfunction, together with other results demonstrating similar associations between disadvantages and children's disturbed behaviours (3, 10, 11, 20) could suggest that the attitude of politicians towards changes in social policy and innovative economic and social measures may be more important as primary preventative measures than any later secondary therapeutic interventions by care workers, notwithstanding that these do have proven efficacy (e.g. the social and developmental gains shown by the children of these families in the course of play therapy) (1, 2).

Although lending some support to our causal hypotheses these results cannot be interpreted as confirming theories regarding the causations of either disadvantage or of family dysfunctions. They do however provide pointers towards some of the prospective studies required for such a task. The major areas of interpersonal and family relationship difficulties which many disadvantaged families experience and are demonstrated here may make them less able to escape their predicaments, less able to avail themselves of other resources, and more likely to perpetuate what has been termed their "web of deprivation" (6). Also of import is that some families are able to move in and out of degrees of disadvantage over time (15) and that both areas of family dysfunction and parental resilience may play a part in this (11).

Future directions

Although some of the relationships and associations demonstrated in this study are not strong their magnitude is similar to findings from other research within the social sciences. Furthermore family functioning amongst disadvantaged families has not formally been studied in

this manner previously. Existing work has either consisted of studying demographic data and variables without reference to individual families (21) or been based upon ideology or social policy with little empirical research foundation (22). This study demonstrates the important finding that any individual family suffering environmental disadvantage runs increasing risk of becoming more widely dysfunctional as the extent and breadth of its disadvantage increases. Greater family dysfunction appears to increase risk of entering disadvantage but much less markedly so. These results now point the way to the need for further scientific studies of the complex relationships between classes of disadvantage and social adversity and aspects of family functioning and their individual and joint impacts upon child functioning over time.

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