

FAMILY RESPONSE TO THE CRISIS OF CORONARY HEART DISEASE

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Statement of the Problem

The modern American family operates at high levels of emotional intensity with little margin for shock absorption. A heart attack in one of the spouses threatens the very integrity of the family and plunges it into a state of crisis. Coronary heart disease ranks first among the causes of death in the United States and accounts for 38.2% of total deaths (Vital Statistics of the United States, 1980). Heart disease has been widely studied as a medical as well as social and cultural phenomenon. However, there is virtually no empirical research in regard to heart disease as a family crisis. A few studies have investigated the effects of a heart attack in a husband on the wife. What happens to other members of the family? What family characteristics influence its ability to handle such a crisis? Such questions remain essentially unanswered. This study has sought to explore family experience with heart attack in several areas of its functioning such as: (1) financial management, (2) household management, (3) dealing with children's needs, and (4) maintenance of the emotional health of family members. It has viewed heart attack as a family crisis and has drawn upon crisis theory and the sociology of family stress for its theoretical basis.

Research Questions

The study questions included the following:

1. What is the impact of the crisis of heart attack on family life?
2. Which areas of family life are the most vulnerable to the ill-effects of the crisis?
3. What is the process of family adjustment to the crisis?
4. What coping strategies do families use in dealing with the crisis-created situation?
5. What is the type, source and extent of help received and what is its role in family's adjustment?

6. What is the importance of such variables as family's cohesion, adaptability, social integration, and social class for its adjustment to the crisis?

Methodology

Study population: The study sample consisted of 40 families of hospitalized patients meeting the following criteria: (1) Age--60 years or less; (2) Diagnosis--First myocardial infarction; (3) Health status prior to illness--Absence of major illness; and (4) Marital status--Married and living with spouse. Ages of the sick members ranged from 32 to 60, and 15% were female. Five Cleveland area hospitals participated in the study. These families closely reflected the racial composition of that metropolitan area and represented all socio-economic levels. Two-thirds had children at home.

Study instruments: Family adjustment to crisis was defined as its ability to perform the following tasks: (1) Maintain economic security, (2) Manage the household, (3) Discharge child-related responsibilities, and (4) Maintain the emotional health of its members. This variable was measured by an instrument developed for the study. Similarly, an instrument measuring family recovery from crisis was constructed for use at Times 2 and 3. Family's social integration and the type, extent and source of help received during the crisis were measured by instruments also specially developed for the study. Family cohesion and adaptability were measured by the Family Adaptability and Cohesion Evaluation Scales (Olson et al., 1978). Psychometric properties of these instruments were examined and found to be satisfactory. Their alpha reliabilities, for example, were from 0.64 to 0.78. Hollingshead's Two Factor Index of Social Position (1965) was used to determine family's social class, while the severity of heart attack was graded by the sick member's score on Peel's Index (1962). The data were collected by the investigator himself over a two-year period.

Process of data collection: In order to follow the family's experience throughout the duration of the crisis, data were collected at three points in time--during patient's hospitalization, one month and three months after discharge. These are hereafter referred to as Times 1, 2 and 3. Besides a family's willingness to participate in the study, approval of the hospital as well as that of the attending physician were also needed. Therefore, permission was obtained from the individual hospital's Committee

on Human Investigations for conducting the study, and a system was worked out for identifying and approaching appropriate patients and seeking their physician's approval. The pattern of approach varied from hospital to hospital. At one hospital, for example, the head nurse on the coronary care unit was contacted once a week for the names of appropriate patients, and the investigator then talked to the patients and their spouses. After that, the unit's director informally notified the attending physician. At a second hospital, the investigator called the secretary of the director of cardiology once a week and was given the names of prospective participants. Attending physicians were then notified by mail of patient's willingness to participate in the study. In the other hospitals, the investigator's contact persons included the ward clerk and the social worker for the hospital's coronary ward. Intensive, in-person interviews were conducted with the spouses of the sick members using pretested schedules and questionnaires. The format included questions about the effects of illness on the areas of family life mentioned above, family's dealing with those effects, the type and sources of help received, and the process of recovery.

Analysis of data: The study data were analyzed both qualitatively and quantitatively. Strengths of association between pairs of variables were measured by Pearson Product Correlation coefficients. The effect on the main dependent variable of each of the independent variables while controlling the influence of others, was assessed by multiple regression and path analysis. The differences between family adjustments at different points in time were evaluated by t-test.

Results

I. Impact of the Crisis on Family Functioning

The study findings regarding the impact of the crisis are grouped around the following four areas of family functioning.

A. Maintenance of Emotional Health of Family Members:

A vast majority of spouses experienced high levels of anxiety, which manifested itself in various somatic complaints and behavior changes. They almost completely suspended their social activities. Children in most cases were similarly affected. The type and extent of their emotional reaction varied according to their age. Emotional health of family members gradually improved. By Time 2, 90% of the

spouses were still experiencing some anxiety, and 55% had not resumed their former social activities. There was a greater incidence of reactive illness (22.5% cases) in other family members at Time 2 than at other times. At Time 3, some anxiety on the part of the spouse was still present and was now considered normal. The incidence of reactive illness had markedly decreased. Although the changes reported in the social lives of spouses were persisting to some extent, most of the children had resumed their regular social activities.

B. Financial Management:

At Time 1 no actual financial strain was felt in 87% of the cases though the fear of future financial problems was there in some. The number of those experiencing this strain gradually rose. Financial impact gradually worsened. By Time 2, a substantial number of families (double the number than at Time 1) had started feeling some financial strain. Loss of income because of the patient's inability to work, bills from the hospital and physicians, and the expense of medication for the sick member were seen as responsible for this strain. This strain had not lifted in over a third of the families even by Time 3. For some of these the situation had worsened.

C. Household Management:

At Time 1, in two-thirds of the cases family routines were thoroughly disrupted. There were no regular formal meal times, and no recreational activities. Household chores were neglected or postponed. Social activities were given up and sleeping hours and patterns changed. The desire of most spouses to be near the sick member in the hospital prompted the greatest change in most families' routines. Such changes in family routines reflected the sense of strain upon household management reported by a majority (70%) of these families. Situation gradually improved. By Time 2, the suspension or disruption of household chores had moderated, but in many families household management had not yet completely returned to former patterns. Almost three quarters had regained most of the control over their household management. By Time 3, the majority of families (75%) had returned to their old routines, but absent from these habitual patterns were those activities that the sick member was not allowed to undertake.

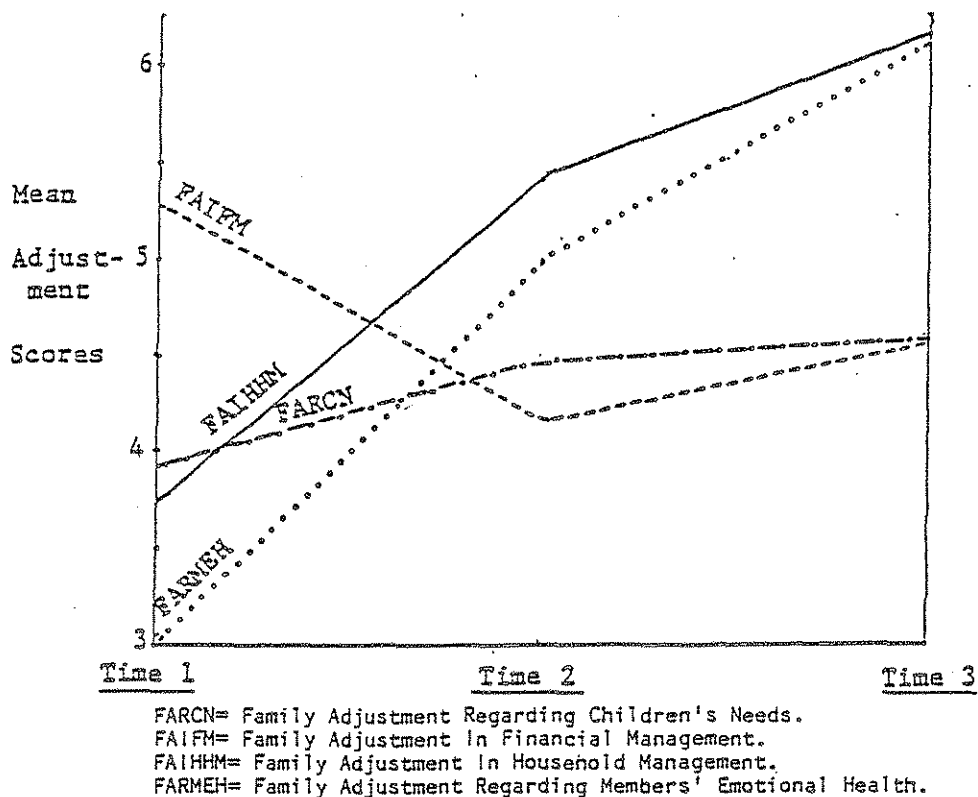
D. Meeting Children's Needs:

At Time 1, none of the families was so desperate that the children's physical well-being would be jeopardized. There was disruption of regular meal times in many families but no child went without food and other necessities of everyday life. A child's need for attention, affection, explanation of what was happening, and reassurance about the sick parent's safety may be neglected in a crisis situation. Only one-third of the families felt that their ability to meet children's needs was adversely affected. The factors that influenced children's reactions included the well parent's anxiety, presence of siblings, family's social support system and the help available from it, and its social class status. Children whose well parents had lower levels of anxiety, who had siblings, and whose families had extensive social support system, and emotional and instrumental help available tended to do better. Age stood out as the most important factor, with children in the 6-12 years age group being the most adversely affected. The preschoolers were too young to understand the seriousness of the family crisis and most of the teenagers, despite the initial upset, functioned adequately in their school, social and household activities. By Time 2, the family's ability to function adequately with regard to children's needs improved markedly. By Time 3, most families reported that their children's life had returned to its pre-crisis level.

Thus the impact of the crisis on different areas of family functioning was not uniform. At Time 1, it was found to be strongest on the family's ability to maintain the emotional health of its members, somewhat on its household management and its meeting the children's needs, and small on its financial management. By Time 2, influence of the crisis had diminished somewhat in its impacts upon family functioning in the maintenance of the emotional health of its members, its household management, and its meeting the children's needs, but it had worsened in the area of financial management. By Time 3, the crisis was generally over for most families but some of its effects lingered in the areas of the spouse's anxiety and the family's financial situation. This differential impact of the crisis is illustrated by Figure 1.

FIGURE 1

FAMILY'S OVERALL ADJUSTMENT TO CRISIS IN FOUR AREAS OF
ITS FUNCTIONING AT THREE POINTS IN TIME



II. Family's Coping with the Crisis

A family's coping with the impact of the crisis on the different dimensions of its functioning varied significantly and was influenced by the availability of needed help.

In dealing with the psychological strain caused by the crisis, passive acceptance, expressing feelings, seeking medical information and reassurance, praying, and seeking emotional support from others, were the major coping strategies used. Twenty-five percent of the spouses increased or resumed smoking, resorted to overeating, and 7% needed medication for their nerves. Emotional support was available mostly from grownup children, siblings of spouses, friends and neighbors and to a lesser extent from social groups and church.

In coping with the financial difficulties that resulted from the crisis, these families resorted to such approaches as using up savings, putting off paying bills, changing

patterns of expenditure, borrowing, seeking help from grownup children, spouse (and kids) starting to work, and seeking relief from County Welfare Department. No financial help was available from kin and non-kin sources.

In the realm of the household management, the families coped by suspending non-essential activities, mobilizing family resources, shifting pre-crisis responsibilities and tasks, and seeking help from outside. Help was available from adult children, parents of spouses, and friends and neighbors.

In dealing with the concerns and anxiety of children, the coping strategies included reassuring them about the sick parent's safety, playing down the seriousness of illness, explaining the situation, taking them to the hospital to see the sick parent, encouraging them to follow everyday routines, and seeking help from outsiders. Middle class and upper class families also involved the sick member's physician in explaining to the children their parent's medical condition. Grownup children, parents of spouses, and to a lesser extent their siblings, and neighbors and friends were helpful.

Families used different strategies for coping with the impact of the crisis on different dimensions of their lives. They needed help both in the form of emotional support and instrumental assistance. Whereas appreciable emotional support was provided to most families by both relatives and nonrelatives during the hospitalization of the heart attack victim, it was not available to them to the extent needed at Time 2. It is possible that these sources of help regarded the crisis as over, given that the patient had survived the heart attack and had returned home. Most families received the needed help in tending to household management and meeting the needs of children. However, those families that were experiencing financial strain received no assistance from their sources of support, kin or non-kin. Hence, the need for support varied in regard to different types of help and different times in the course of the crisis. Needed help was available to families from some elements of their support networks and not from others, and one type of help (emotional support) was available from most of the sources, but another (financial assistance) was available from very few. Some network members were approached for help, whereas others were expected to offer help without being asked but did not. The unavailability of help was accepted in regard to some sources but resented in regard to others. Most of these families received next to no help from human service agencies and programs.

III. Recovery from the Crisis

An indicator of family recovery was seen in the sick member's resumption of his/her normal activities in important areas of life. Over four-fifths of the sick members had not resumed their former work activities at Time 2. In most families they had not resumed their household duties but had resumed the child-related functions at least partially.

The spouses were also asked to describe what the crisis had done to their families in an overall way. Had it left them better, as before, or worse? At Time 2, 60% considered their families to have emerged from the crisis "Better," 20% placed their families in the "As before," and the remaining 20% in the "Worse" categories. Spouses in the "Better" category gave such reasons as "We are emotionally closer to each other now," "I have a better feeling for what life would be without her," "I am less self centered," "I am not uptight about anything any more," "We have learned to do with much less," and "My faith in God has increased." The reasons for the family being worse included: "We have no social life like before," "Financially life is worse," "Our sex life is not back to normal," and "We are on the verge of divorce."

By Time 3, most sick members had resumed their normal activities. As compared to Time 2, the number of families where the sick member had completely returned to his/her work activity, rose from two to 20, a tenfold increase. The combined number of families in which the sick members had either completely or partially resumed their household activities also rose from 27 (67%) at Time 2 to 34 (85%) at Time 3. Only in six cases was the sick member doing little or no household work; two of whom had reportedly never done much work at home.

Had the crisis left the family better, just the same, or worse? The picture of the family's overall functioning at Time 3, as perceived by the spouse, was not as bright as at Time 2. Although the number reporting their overall condition as "Worse" remained unchanged, the number evaluating themselves as "Better" shrunk from 60% at Time 2 to 40% at Time 3. Many families felt that although life had come back to normal in many respects, it was also different significantly, but perhaps not necessarily better. Fewer gave such responses as: "We are emotionally closer and have better communication," "We have better understanding and appreciation of each other." Another pattern seemed to have become more prominent, voiced as: "We are trying to enjoy life each day," "He is beginning to relax more." Other reflec-

tions pertained to the changes in the family's dietary habits, including non-smoking on the part of the sick member, and the changed life-style. The comments given by families that saw themselves as worse clustered around concerns about the sick member's health, continuing financial difficulties, and unsatisfactory sex life. Even if it left 20% of the families worse off, the crisis was substantially over by Time 3. This time-limitedness of the crisis was seen in the cumulative improvement in family adjustment over the three points in time. The t-test for related measures was used for evaluating the differences between the measures of adjustment at each time. The rise in the mean family adjustment-to-crisis score from 33.9 at Time 1, through 35.9 at Time 2, to 38.4 at Time 3 shows the family's progressive improvement with the passage of time. These differences were statistically significant at $p = .001$. A similar picture emerged from a comparison of the family's recovery-from-crisis scores at Times 2 and 3. The mean family recovery score at Time 3 was 16.02 compared with 12.55 at Time 2. The difference between the two scores was also statistically significant at $p < .001$.

III. Role of Predictor Variables in Family Adjustment

The effect of various factors on the family's adjustment to crisis was assessed by multiple regression analyses. These factors included family cohesion, adaptability, social integration, social class position, and the help it received as well as the severity of heart attack which was also treated as a variable. The variable contributing the most to family adjustment at Time 1 was the extent of help received. Family's social class position emerged as the second most important variable and manifested the highest beta weight. However, the relationship between social class and family adjustment was negative. Lower class families seemed to cope more successfully than their higher status counterparts. Severity of the heart attack was inversely related to family adjustment and responsible for a very small amount of the variance in family adjustment. Family cohesion and social integration contributed small amounts to adjustment while adaptability was not strong enough even to enter the regression equation.

There was a very strong zero-order correlation between family social integration and help received ($r = .71$), but multiple regression analysis showed the contribution of social integration to family adjustment to be little over two percent. Thus social integration seemed to be indirectly affecting family adjustment through the help received. This was ascertained by further exploration of the data

using path analysis. The causal model constructed for the purpose and a decomposition of the components of various effects are displayed in Figure 2 and Table 1. It was found that social integration not only directly contributed to adjustment but also influenced it through help received and cohesion. The direct effect of family cohesion was less impressive. The relationship of social class with family adjustment continued to be in an inverse direction. There was a positive but weak relationship between social class and help received. Social class contributed modestly to social integration.

FIGURE 2

MODEL SHOWING INFLUENCE OF INDEPENDENT AND INTERVENING VARIABLES ON FAMILY'S OVERALL ADJUSTMENT TO CRISIS AT TIME 1

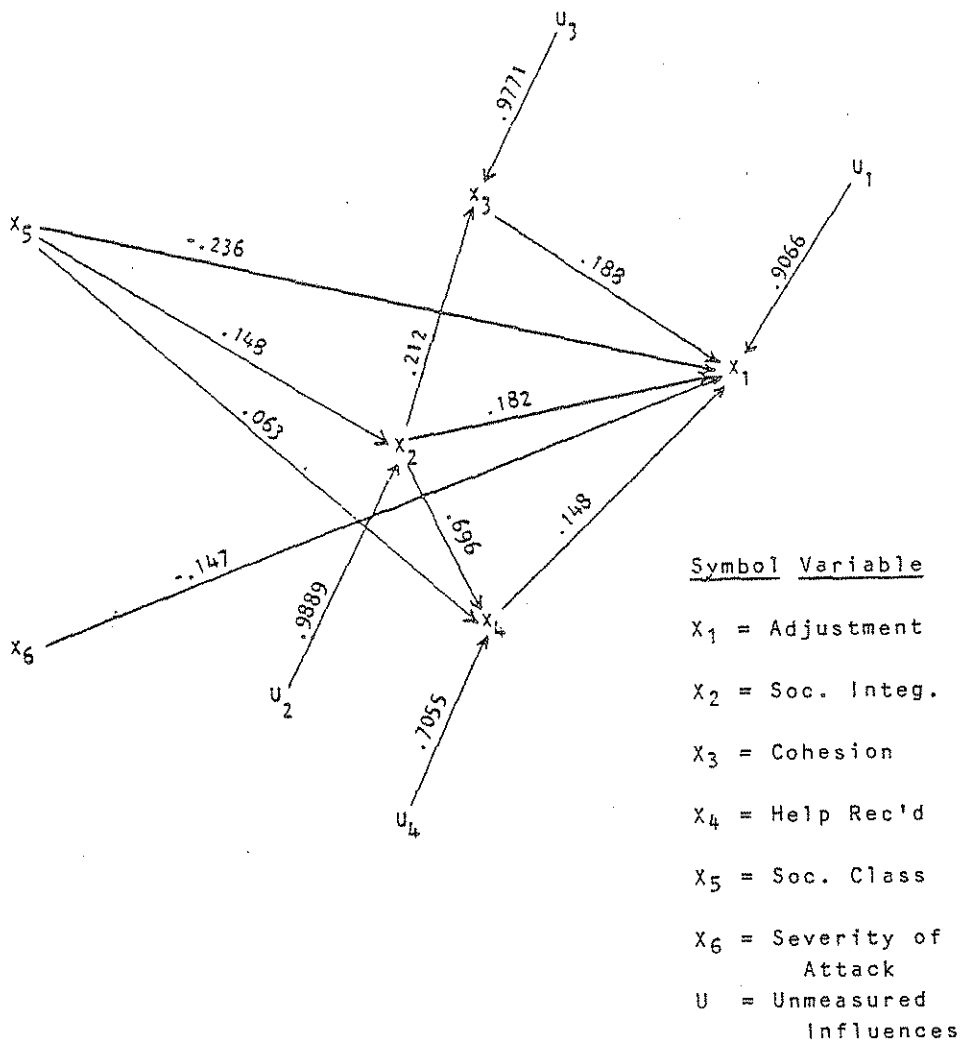


TABLE 1

DECOMPOSITION OF CORRELATION COEFFICIENTS OF DETERMINANTS
OF FAMILY'S OVERALL ADJUSTMENT TO CRISIS AT TIME 1 (N = 40)

Variables	Total Covariance	Causal		Total Effect	Non-causal Spurious Effect
		Direct Effect	Indirect Effect		
<u>Dep. Family Adjustment</u>					
Ind. Social Integration	.305	.182	.143	.325	0
Cohesion	.188	.188	0	.188	0
Help Received	.307	.148	0	.148	-.102
Social Class	-.122	-.236	.036	-.200	0
Severity of Heart Attack	-.141	-.147	0	-.147	0
$R^2 = .178$					
Residual = .9066					
<u>Dep. Help Received</u>					
Ind. Social Integration	.706	.696	0	.696	-.041
Social Class	.167	.063	.103	.166	0
$R^2 = .502$					
Residual = .7055					
<u>Dep. Cohesion</u>					
Ind. Social Integration	.212	.212	0	.212	0
$R^2 = .045$					
Residual = .9771					
<u>Dep. Social Integration</u>					
Ind. Social Class	.148	.148	0	.148	0
$R^2 = .02$					
Residual = .9889					

At Time 2, severity of the heart attack emerged as the variable accounting for the most variance in the dependent variable. Family social integration was the next most important variable with the highest beta weight. The influence of family cohesion continued to be weak. The influence of help received declined considerably. As pointed out earlier, perhaps for the outside world, because the sick member had survived the heart attack and was home from the hospital, the major crisis for the family was over.

At Time 3, severity of the heart attack continued to top the list of predictor variables although its influence had declined somewhat as compared to Time 2. Family cohesion emerged as the second most influential variable at this time. Social integration and help received moved to the third and fourth places respectively with regard to their predictive power. Changes in the importance of these variables for family adjustment over time are shown in Table 2.

Table 2

Multiple Regression of Predictor Variables on
Family's Overall Adjustment to Crisis at Times 1, 2 & 3 (N=40)

	<u>Variable</u>	<u>Zero-order Correlation</u>	<u>Multiple Correlation</u>	<u>Cumulative Variance Explained</u>	<u>Beta</u>
	Help Received (Mean=28.8 SD=6.99)	.3072	.3072	.0943	.1479
	Social Class (Mean=3.45 SD=1.26)	-.1225	.3541	.1254	.2363
T I M E	Severity of Heart Attack (Mean=1.57 SD=0.74)	-.1412	.3827	.1464	-.1472
1	Social Integration (Mean=41.95 SD=8.50)	.3054	.4055	.1645	.1816
	Cohesion (Mean=256.8 SD=23.6) (R ² =.178)	.1884	.4219	.1780	.1887
	Severity of Heart Attack (Mean=1.57 SD=0.74)	-.3105	.3105	.0964	-.2944
T I M E	Social Integration (Mean=41.95 SD=8.50)	.2430	.3714	.1379	.3149
	Help Received (Mean=27.5 SD=5.92)	.0567	.3912	.1531	-.2052
2	Cohesion (Mean=256.8 SD=23.6) (R ² =.177)	.1399	.4212	.1774	.2379
	Severity of Heart Attack (Mean=1.57 SD=0.74)	-.2633	.2633	.0893	-.3080
T I M E	Cohesion (Mean=256.8 SD=23.6)	.2102	.3472	.1205	.3072
	Social Integration (Mean=41.95 SD=8.5)	.1834	.3618	.1309	.2238
3	Help Received (Mean=24.55 SD=4.6) (R ² =.143)	.0927	.3789	.1436	-.1986

Of the family's crisis-meeting resources, social integration was found to be very helpful, cohesion somewhat helpful, and adaptability of no avail. Influence of social integration declined with time and that of cohesion improved by Time 3. Help received from outside positively affected family adjustment but its influence declined after Time 1. Social class position of the family also emerged as an important variable but its relationship to adjustment was negative. The heart attack did not appear to have the same effects on lower class families as on the higher class ones. By Time 2, the severity of the member's heart attack became the most important variable affecting the family. One possible explanation is that when the sick member was in the hospital, although sicker, he/she was in competent hands and his/her constant care was the responsibility of professional staff. That might have put the minds

of family members somewhat at ease. That security was diminished when the patient came home. Worries about his/her health and accommodating the special needs of a sick person at home were quite taxing on most families. At that time family social integration, help received from outside, and cohesion, in that order, were the factors contributing to their adjustment to crisis. By Time 3, family cohesion had emerged as the most influential factor, while social integration and help received had lost much of their explanatory power. Possibly this was due to the changes in these families' perspective on life and intra-familial relationships that had resulted from the crisis experience. Now they were depending more upon one another (cohesion) and less upon help from outside.

In terms of the inter-relationships amongst these variables, the study data showed positive relationships between family's cohesion and social integration on the one hand and its adjustment to crisis on the other. The strengths of those relationships varied over the duration of the crisis. Help received also positively contributed to crisis adjustment. Social integration was also positively related to help received and its cohesion, much more strongly with the former. The relationship of social class and help received was similarly positive but weak. Social class was inversely related to adjustment as was severity of the member's heart attack. A family's integration into its social network and its social class seemed to have a joint influence on the help it received during the crisis.

Implications for Social Work Practice

The study findings have several important social work practice related implications.

1. The area of family members' emotional health was found to be the most vulnerable to the ill-effects of the crisis. The overwhelming majority of spouses reported immediate anxiety, which later was seen in reactive illnesses. These families should be helped to maintain their emotional health through emotional support, reassurance, information, education, clarification, anticipatory guidance and other appropriate approaches.

2. Families used a range of coping strategies. For example, in the area of maintaining the emotional health of their members the strategies employed were aimed at understanding and controlling the stress, while those in the area of financial management were directed toward concrete steps to modify the situation. Most of these strategies

included seeking help from others within their social network. The help thus received was found to be important. Finlayson (1976) had found a positive relationship between the outside help received by the wife of a heart attack patient and favorable outcome in the patient's recovery. Family social networks can strongly affect crisis resolution. Therefore, identifying, strengthening and mobilizing a family's social network should be a focus of social work intervention.

3. There was more reactive illness in family members at Times 2 and a greater negative influence of severity of heart attack at Times 2 and 3. Many spouses found the convalescent period after the sick member's discharge from the hospital very stressful. This is consistent with the finding of Skelton and Dominian (1973). This suggests the need for continued intervention with such families throughout the duration of the crisis rather than only in its acute phase.

4. Children in 6-12 year age group were more vulnerable to the crisis than either younger or older youth. Thus families with children in this age group should be given special consideration.

5. In dealing with children's anxiety, middle and upper class families also involved the sick parent's physician in explaining to the children their sick parent's condition. This was found to be helpful. Such involvement of the physician can become a part of the crisis intervention activities with these families.

6. Many families experienced severe financial strain and little help was available from either kin or non-kin sources. Government agencies' criteria for eligibility seemed to be stringent and procedures too slow for such families in crisis. The need for more responsive emergency assistance is apparent.

7. The families which had no medical insurance were understandably worried about the financial consequences of the illness. Even those who did have insurance were confused, concerned. Ignorance about the extent of the coverage was an important component of that concern. In the midst of a major crisis, most spouses were not able to obtain the needed information and clarification. Assistance in this regard should be included in hospital social services.

8. A crisis is a turning point--a danger and an opportunity in the life of those affected by it. Nearly half of our families emerged out of their crisis feeling stronger and

better, while a fifth felt that they were worse off in their overall functioning. The great majority of these families did not receive any help from formal human service agencies or programs. Croog, Lipson and Levine (1972) had reported a similar finding. Most of the hospitals which participated in our study had well-established social service departments, yet most of the families were totally unaware of their services. A systematic screening for high risk patients would result in greater utilization of social work services. Social work departments should make their services more visible and accessible to patients and families in crisis.

9. Family Adaptability and Cohesion Evaluation Scale (FACES) was found to be a valid and reliable instrument. It can be used for classifying families on these dimensions and that typology can be used for clinical assessment and intervention.

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