

The needs of Chinese family members of acute myocardial infarction patients during the critical phase of admission to coronary care



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SUMMARY

- ❖ This study investigated the needs of Chinese family members of acute myocardial infarction (AMI) patients during two critical phases: 24 and 96 hours after admission.
- ❖ The sample consisted of 50 family members of 50 AMI patients admitted to coronary care units of three teaching hospitals in Xi'an, Peoples' Republic of China.
- ❖ Data were collected using the Critical Care Family Needs Inventory (CCFNI) (Molter, 1979).
- ❖ The findings of this study indicate that the information needed by Chinese families includes the patient's diagnosis, prognosis and treatment plan. The need to be reassured that the best care has been provided to their relatives, to feel that hospital personnel care about the patient, and to feel there was hope were expressed as being the most important to the family members during both phases.
- ❖ The mean degrees of importance of 38 items obtained using the CCFNI tool were significantly different when family members' needs were measured at 24 hours and 96 hours ($p < .05$).
- ❖ The results of this study may assist Chinese nurses in identifying and responding to the needs of relatives of AMI patients and to plan structured interventions that support the needs of family members.

INTRODUCTION

During recent decades, the incidence of coronary heart disease has been on the rise and it has become a priority health problem across the world. In China, an investigation of people 35 years of age or older showed that the incidence of coronary heart disease in the 1980s was between 2-10% (Wu, 1998). Between 1984 and 1997, age-adjusted incidence of coronary heart disease in Chinese populations increased by 67%, while the mortality rate increased from 38.6/100,000 to 71.3/100,000 in urban areas and from 18.6/100,000 to 31.6/100,000 in rural areas between 1980 and

2000 (Wu, 2003). Coronary heart disease has been ranked among the top three causes of death in China since 1997 (Health Statistics Information Centre of the Ministry of Health, 2003).

Myocardial infarction is one of the severest types of coronary heart disease. It is a major cause of mortality and morbidity in the Western world (Thompson, 2002). The incidence of myocardial infarction in China has quickly increased in the past few decades due to the improvement in living standards, the development of social industrialisation and the growth of the elderly population. In 1991, a report indicated that the incidence of myocardial infarction among the Chinese population aged 35 years or older was approximately 0.35% in men and 0.25% in women (PRC National Blood Pressure Survey Co-operative Group, 1995). In 2001, the incidence of myocardial infarction increased to 0.7% in men and 0.5% in women aged 35 to 74 (Wu, 2003).

Being diagnosed with acute myocardial infarction (AMI) is a major life event that affects the psychological, social and physiological well-being of both patients and their families. Decreased quality of life, mood disturbance and low self-esteem are often identified as consequences of AMI for both patients and their family members. AMI can occur without warning, and consequently patients and their families are not prepared for this event in their lives. The sudden hospitalisation that follows is frequently viewed as a crisis event for both patients and their families (Nyamathi, 1987). Family members may feel insecure, lonely and unable to mobilise proper coping resources. Although nurses are ideally placed to provide psychologically supportive care of families during a time of crisis, staff members in critical care settings often direct all of their energy towards saving the lives of the patients (Jacono, et al., 1990). In China, along with dramatic therapeutic advances (for example, percutaneous transluminal coronary angioplasty, thrombolysis and angiotensin-converting enzyme inhibitors), the hospitalised stay for AMI has been shortened to two or three weeks in many hospitals (Chen, 1997). Patients are normally kept in a coronary care unit and intensively monitored for four to seven days. The first week after onset is normally referred to as the acute phase by health professionals (Chen, 1997). This has been

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identified as a crucial period for the patients and their families, with many of them identifying the first few days after infarction as the worst time of all (Xie, 2003). Because the patient's condition is very serious, nurses in coronary care units are expected to deal with the early signs of complications and to handle a variety of sophisticated equipment. Little attention has been given to the psychosocial needs of AMI patients and even less to their families. Consequently, the family tends to be neglected.

The family is the basic unit of society that strongly influences the development of its members (Wilson & Hobbs, 1999). The patient is part of a larger family system, so what affects the patient also affects the family; when a family member becomes ill, it inevitably affects each member of that family. Therefore, quality of life of the family is closely related to the health of its members, which is particularly the case with those who have a family member admitted to the intensive care unit or coronary care unit (McCoy & Argue, 1999). Knowing about the needs of family members can help the nurses respond appropriately and effectively.

Nursing research on family needs has appeared in literature since the late 1970s (Kleinpell, 1991). Molter (1979) was one of the pioneers to study the needs of family members of critically ill patients. Based on crisis theory, she stated that hospitalisation for a critical illness event is frequently viewed as a crisis situation for the patients and their families, with unresolved crises potentially affecting the outcome of the patient's illness. Molter (1979) believed that it is important for nurses to identify the needs of family members to help develop appropriate intervention programmes of support. To achieve this aim, she developed a tool to systematically assess family members' needs: the Critical Care Family Needs Inventory (CCFNI). This is a structured questionnaire consisting of 45 statements based on crisis theory and relevant literature. It has been employed in many studies investigating the family needs of critically ill patients (for example, Bouman, 1984; Daley, 1984; Mathis, 1984; Murphy et al., 1992; Norheim, 1989).

An exploratory study by Daley (1984) identified the physiological and psychological needs of families ($n = 40$) with relatives admitted to intensive care. The results indicated that family members most needed relief of their anxiety and information about the patient. Bouman (1984) compared the needs of families ($n = 34$) with critically ill patients at two different times during the patients' admission. Data were collected at two discrete times: within 36 hours of admission to the intensive care unit and again at least 60 hours later. The results showed that informational needs were the most important. However, the level of need decreased significantly between the two periods of data collection.

Although studies on family needs have been widely undertaken in critical care settings in Western countries, little research has been undertaken from a Chinese perspective. By identifying the needs of Chinese families, critical care nurses can develop preventative and culturally sensitive interventions that meet the priorities of specific communities.

The objectives of this study were to:

- ❖ Identify the needs of Chinese AMI patients' families within the first 24 hours and after 96 hours of admission to the coronary care unit;
- ❖ Identify the most and the least important family needs during the two periods;
- ❖ Compare the families' needs between these two time periods.

METHODS

Study sample and setting

This descriptive study was conducted in the coronary care unit of three teaching hospitals in Xi'an, People's Republic of China. A purposive sample of 50 family members was recruited based on the following inclusion criteria:

- ❖ Blood relation, marital relative or significant other of the AMI patient;
- ❖ Able to understand Chinese;
- ❖ 18 or more years of age;
- ❖ Able to give informed consent.

Data collection

Data were collected using Molter's Critical Care Family Needs Inventory (CCFNI), consisting of 45 need statements. The participants were asked to rate each statement with a four-point rating scale (not important = 1, slightly important = 2, important = 3 and very important = 4). Demographic data, including age, gender, educational background, occupation, family income and relationship with the patient, were collected.

Family members who met the criteria were contacted by a researcher, and the purpose of the study was explained. The subjects were assured that their responses would be anonymous and kept confidential. In addition, participants were advised that they had the right to withdraw from the study at any time without this affecting the care that the patient was receiving. The study was approved by the research ethics committees of the three hospitals.

Instrument validity and reliability

In preparation for its use with Chinese family members, the CCFNI was translated from English into Chinese. To ensure equivalence of meanings between the English and the Chinese scale, a process of back-translation was used. The CCFNI was first translated into Chinese independently by two research assistants. Each translation of the scale was then translated back into English to check the equivalence of meaning. One of the scales was translated back into English by a nurse specialist, whereas the other was done by a non-nurse. Moreover, the content validity of the Chinese version of the scale was confirmed by five experts: the head nurse of a coronary care unit, a nursing specialist in a critical care setting, a nursing educator, a cardiologist and a psychologist. They were asked to review the questionnaire and to determine whether the content reflected potential family needs, whether additional questions should be asked, and whether there were any inappropriate questions. The content of the instrument was considered to be valid and all items relevant for use with Chinese family members. The reliability of the Chinese version of the questionnaire was tested with ten family members of AMI patients sharing similar characteristics with the study subjects. The resulting Cronbach's alpha value of 0.86 indicated a high level of reliability (Polit & Hungler, 1999).

Data collection

A structured interview technique was used to collect the data at two time periods: within the first 24 hours and 96 hours after admission. This involved the researcher reading each statement to the participant and recording each response on the data sheet. Both interviews were conducted when the patient was in the coro-

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nary care unit. They were conducted in a quiet place, away from the patient's bedside, and lasted for between 20 and 30 minutes.

Data analysis

Data were analysed using the Statistical Package for Social Science (SPSS), version 10.0 for Windows. Descriptive statistics were used to analyse the data and included frequencies, range, percentage, mean and standard deviation calculations. The mode was used to determine the most frequently occurring response for the CCFNI. The Wilcoxon test was used to determine the differences in the families' needs between the first 24 hours and after 96 hours during the critical phase. The level of significance set for the study was < 0.05.

RESULTS

Subject characteristics

The age of the 50 subjects ranged from 18 to 63 years with a mean age of 41.8 (SD 10.9) years. The majority of the participants completed junior higher middle school education (62%) while only two (4%) participants completed college education. Forty-eight percent were employed. The children of the patients were the largest group interviewed (66%), with the spouses of the patients being the next largest group (26%).

Family needs

The data were analysed first by ranking the needs using descriptive statistics. Ranking of the ten most important family needs was based on a scale of three (important) to four (very important), while

Item number	Needs	Category of Importance		Mean	SD
		Very important (4)	Important (3)		
35	To be assured that the best care possible is being given to the patient	46	4	3.92	.27
12	To feel that hospital personnel care about the patient	45	5	3.90	.30
18	To feel there is hope	43	7	3.86	.35
40	To be called at home about changes in the patient's condition	43	7	3.86	.35
33	To be assured that it is all right to leave the hospital	42	7	3.86	.35
16	To know how the patient is being treated medically	42	7	3.86	.35
27	To know specific facts concerning the patient's progress	41	8	3.84	.37
15	To know exactly what is being done for the patient	38	9	3.81	.40
44	To receive information about the patient's condition	38	9	3.81	.40
6	To have a specific person to call at the hospital when unable to be there	37	11	3.77	.42

Table 1: The ten most important rated family needs within the first 24 hours of admission to the coronary care unit.

Item number	Needs	Category of Importance		Mean	SD
		Slightly important(2)	Not important(1)		
31	To have the pastor visit	1	49	1.02	.14
17	To be told about the chaplain service	3	46	1.06	.24
42	To be encouraged to cry	19	30	1.39	.49
14	To be alone	15	21	1.42	.50
23	To talk to someone about negative feelings such as guilt or anger	24	20	1.55	.50
45	To have another person with the relative when visiting the patient	27	20	1.57	.50
4	To have a place to be alone while in the hospital	19	12	1.61	.50
38	To have someone be concerned for the relative's health	20	10	1.67	.48
43	To be told about someone to help with family problems	25	12	1.68	.47
37	To have comfortable furniture in the waiting room	17	7	1.71	.46

Table 2: The ten least important rated family needs within the first 24 hours of admission to the coronary care unit.



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that of the ten least important rated family needs was based on a scale of one (not important at all) to two (slightly important). Tables 1 to 4 show the ten most and least rated family needs within 24 hours and after 96 hours of admission to the coronary care unit. Table 5 contains a ranking of items by perceived satisfaction levels of the two periods. Ranking was based on scores of one to four being assigned to the responses.

The Wilcoxon test was used to compare the importance of family needs between the two times of data collection. The findings showed a significant difference in the mean degrees of importance of the 38 items obtained by CCFNI between the two times of data collection ($p < 0.05$). Seven needs stated no significant difference. These included three most important needs (to be assured that the best care possible was being given to the patient, to feel that hospital personnel cared about the patient, and to feel that there was hope) and two least important needs (to have the pastor visit

and to be told about the chaplain service). Others included having visiting hours start on time and having food easily available while in the hospital.

DISCUSSION

The three most important needs identified by the family members of AMI patients are the same within 24 hours and after 96 hours of the patient's admission:

- ❖ To be assured that the best possible care was being given to the patient;
- ❖ To feel that the hospital personnel cared about the patient;
- ❖ To feel there was hope.

The relatives frequently stated that they did not expect the health care personnel to be concerned about them. The families believed that care should be solely patient-centred, regardless of whether

Item number	Needs	Category of Importance		Mean	SD
		Very important (4)	Important (3)		
35	To be assured that the best care possible is being given to the patient	44	6	3.88	.33
12	To feel that hospital personnel care about the patient	41	8	3.84	.37
18	To feel there is hope	38	11	3.78	.42
39	To know the patient's chances of getting well	37	12	3.76	.43
40	To be called at home about changes in the patient's condition	31	18	3.63	.49
33	To be assured that it is all right to leave the hospital	30	20	3.60	.50
27	To know specific facts concerning the patient's progress	26	22	3.54	.50
26	To see the patient frequently	23	21	3.52	.51
16	To know how the patient is being treated medically	17	31	3.35	.48
44	To receive information about the patient's condition	19	28	3.23	.53

Table 3: The ten most important rated family needs after 96 hours of admission to the coronary care unit.

Item number	Needs	Category of Importance		Mean	SD
		Slightly important(2)	Not important(1)		
31	To have the pastor visit	2	48	1.04	.20
17	To be told about the chaplain service	2	45	1.04	.20
42	To be encouraged to cry	4	45	1.08	.28
14	To be alone	9	37	1.20	.40
23	To talk to someone about negative feelings such as guilt or anger	10	38	1.20	.41
45	To have another person with the relative when visiting the patient	13	34	1.28	.45
4	To have a place to be alone while in the hospital	14	33	1.30	.46
43	To be told about someone to help with family problems	14	31	1.31	.47
9	To have someone help with the financial problems	14	23	1.38	.49
38	To have someone be concerned for the relative's health	23	19	1.55	.50

Table 4: The ten least important rated family needs after 96 hours of admission to the coronary care unit.

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staff are busy and time is limited. These findings are consistent with other studies performed in Western populations, which indicated that these needs were rated by families as being among the ten most important needs 70% of the time (Hickey, 1990).

During the critical phase of the patient's admission to the coronary care unit, it was important for family members to:

- ❖ Know the patient's condition was stable;
- ❖ Be assured that it was all right for them to leave the hospital;
- ❖ Know the patient's medical treatment plan.

After 96 hours, the following needs were rated as being most important:

- ❖ Knowing the patient's chances of getting well;
- ❖ Being given the updated information at home;
- ❖ Having assurance that it was all right to leave the patient in hospital.

Since the patient's condition was very serious during the critical phase, the family members were concerned mainly about the primary responsibility of the health professionals to provide the best care for the patient (Appleyard et al., 2000). Concrete information about the patient's condition, treatment plan and prognosis provided some sense of stability or control and assisted the family members in coping with their high level of anxiety (Bouman, 1984). Therefore, the best possible care given to the patient by hospital personnel, a sense of hope, and the honest information about the patient's treatment, prognosis and changes in condition were very important for family members. These important needs concurred with those identified in earlier research by Leske (1986), Molter (1979), Norris and Grove (1986), and Rodgers (1983).

In this study, the need to have the chaplain visit and being told about spiritual services were identified as being the least important by the family members at both time periods. The importance of these needs was not consistent with the findings reported by Molter (1979) and other researchers. This might be related to the different cultural backgrounds of the Chinese and Western people. In China, especially in big cities, most people do not have any religious belief. In this study, only the two participants who completed four-year college education indicated that they needed the comfort of a chaplain. On the other hand, two participants stated that they believed Buddha could help them.

The physical needs of family members as referred to in Bouman's (1984) study, including the need to have help with financial problems, a place to be alone while in the hospital and another person accompany when visiting the patient, were perceived as least important by Chinese family members. This may be related to the different personalities and the traditional Chinese culture. All the participants were adults and almost half of them were male family members. In China, men especially are brought up to develop a strong personality. In this study, the family members frequently stated that they did not expect the health personnel to be concerned about them. Although such concern was appreciated, the family members saw the staff as being responsible only for the care of the patient and not the family. As one of the family members said in this study, 'the absolute most important thing is that they [health personnel] take care of the patient, not me'. Similar findings were documented in Bouman's (1984), Molter's (1979) and Norris and Grove's (1986) studies.

The results from this study indicate that the mean degrees of

importance of most family needs decreased significantly after the first time period. For patients with AMI, the first 24 hours contained the highest risk of sudden death (Black & Matassarin-Jacobs, 1993). They were admitted to the coronary care unit, an unfamiliar environment for both the patient and the family; consequently, the family members were mostly anxious to obtain information related to the patient's condition and needed emotional support. After 96 hours, the patient's condition, if uncomplicated, will be relatively stable in most cases. Therefore, the mean degrees of importance of most family needs were higher within the first 24 hours of the patient's admission to the unit than those after 96 hours. This result is consistent with the findings conducted with Western populations (Bouman, 1984).

Among the 45 family needs, seven needs were not significantly different between the two time periods. Of the three most important needs identified, 'to feel there is hope' reinforces the concept that hope is very important for the family members during the whole critical phase. Although the patients' conditions were relatively stable after 96 hours, they were still kept in the unit, often supported by technological equipment. The role of health professionals is to provide patients with the best possible care and to enable family members to feel that they care about their relatives.

The importance of the need for information about the patient's condition decreased significantly after 96 hours of admission, since most family members had already received the necessary information they required within the first 24 hours. This finding is consistent with that reported by Bouman (1984). However, the need to talk to the same nurse each day was significantly different between the two periods. The importance of this need significantly decreased after 24 hours, which may be related to the fact that Chinese nurses are not permitted to answer questions concerning the patient's diagnosis, prognosis, treatment or changes in condition when asked by relatives. This is the role of a physician. Nurses are more likely to provide information related to their work, such as changes in the patient's temperature, blood pressure, heart rate and pattern, orientation status, and functional abilities.

IMPLICATION AND RECOMMENDATIONS

The limitations of this study include the small sample size and the lack of randomisation, thus limiting the generalisability of the results. Family members may have been reluctant to disclose their true beliefs and feelings to the researcher. Despite these limitations, this study has implications for nursing education, practice and research. Nursing education in China needs to focus on those key needs that have been repeatedly identified by family members as being important. These needs can be a focus of the nursing process by teaching assessment of these needs and determining interventions to meet them as important aspects of patient care. The knowledge of these needs is also important to nursing practice because it broadens the focus of practice from the patient to include the family system. The family is an important aspect of the health care team, and they must be considered so that nursing interventions can be developed to meet their needs.

Further study is required to address questions such as: what coping mechanisms are most effective in attaining equilibrium for families and how do family members perceive the patient's illness and admission to critical care? Moreover, further studies

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are needed to explore strategies to meet family needs and those perceived as being important in meeting their needs.

CONCLUSION

Although numerous studies have documented the needs of family members of patients in intensive care units in the last few decades (Bouman, 1984; Daley, 1984; Mathis, 1984; Molter, 1979; Murphy, et al., 1992; Norheim, 1989; Theobald, 1997), there is little from a Chinese perspective. The findings of this study provide useful information that can assist Chinese nurses in recognising the needs of family members of AMI patients. The study also generates much needed impetus and direction for assessing the needs of Chinese families and further supporting the needs perceived as being most important by the Chinese family members, especially the relatives of AMI patients during the critical phase.

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Item N ^o	Needs	Degree of Importance (mean)		Z value	Significance (p)
		24 hours	96 hours		
35	To be assured that the best care possible is being given to the patient	3.92	3.88	-0.816a	0.414
12	To feel that hospital personnel care about the patient	3.90	3.80	-1.667a	0.096
18	To feel there is hope	3.86	3.72	-1.897a	0.058
40	To be called at home about changes in the patient's condition	3.86	3.62	-2.982a	0.003
33	To be assured that it is all right to leave the hospital	3.82	3.60	-3.051a	0.002
16	To know how the patient is being treated medically	3.82	3.30	-4.642a	0.000
27	To know specific facts concerning the patient's progress	3.80	3.46	-3.545a	0.000
15	To know exactly what is being done for the patient	3.70	3.26	-4.185a	0.000
6	To have a specific person to call at the hospital when unable to be there	3.68	3.12	-4.396a	0.000
44	To receive information about the patient's condition	3.68	3.32	-3.838a	0.000
19	To know why things are being done for the patient	3.64	3.22	-3.409a	0.001
26	To see the patient frequently	3.62	3.32	-3.116a	0.002
2	To have the questions answered honestly	3.54	3.22	-3.003a	0.003
39	To know the patient's chances of getting well	3.50	3.70	-2.296b	0.023
30	To talk to the doctor at least once a day	3.48	3.26	-2.357a	0.018
1	To feel accepted by hospital personnel	3.36	3.04	-3.021a	0.003
24	To have directions as to what to do at the patient's bedside	3.34	2.84	-3.592a	0.000
3	To be able to visit at any time	3.32	2.90	-3.592a	0.000
22	To talk about the possibility that the patient might die	3.22	2.52	-4.638a	0.000
34	To have explanations given in terms that are understandable	3.16	2.80	-3.499a	0.023
20	To be told about transfer plans when they are being made	3.14	2.72	-3.409a	0.001
28	To be able to do some of the physical care of the relative	3.02	2.76	-2.683a	0.002
8	To have a telephone nearby	3.00	2.80	-2.357a	0.018
7	To have visiting hours start on time	2.88	2.78	-1.147a	0.251
5	To be told about other people who could help with problems	2.82	2.20	-4.306a	0.000
21	To have explanations of environment before going into CCU for the first time	2.80	2.10	-4.882a	0.000
36	To know which staff members could give what type of information	2.80	2.28	-4.153a	0.000
10	To have visiting hours changed because of special condition	2.74	2.48	-2.837a	0.005
25	To know about the various types of staff taking care of the patient	2.70	2.26	-3.657a	0.000
32	To have a bathroom near the waiting room	2.68	2.48	-3.162a	0.002
41	To talk to the same nurse each day about the patient's condition	2.56	2.14	-2.948a	0.003
11	To have food easily available while in the hospital	2.56	2.46	-1.667a	0.098
9	To have someone help with the financial problems	2.52	1.94	-4.322a	0.000
29	To have friends nearby for support	2.52	2.20	-3.266a	0.001
13	To have a waiting room near the patient	2.46	2.14	-3.411a	0.001
37	To have comfortable furniture in the waiting room	2.42	2.02	-3.043a	0.002
38	To have someone be concerned for the relative's health	2.30	1.86	-3.841a	0.000
4	To have a place to be alone while in the hospital	2.14	1.44	-4.397a	0.000
43	To be told about someone to help with family problems	2.06	1.50	-4.562a	0.000
14	To be alone	1.88	1.34	-4.025a	0.000
23	To talk to someone about negative feelings such as guilt or anger	1.72	1.28	-3.592a	0.000
45	To have another person with the relative when visiting the patient	1.66	1.38	-2.985a	0.003
42	To be encouraged to cry	1.42	1.12	-3.128a	0.002
17	To be told about the chaplain service	1.14	1.22	-1.134b	0.257
31	To have the pastor visit	1.02	1.04	-1.000b	0.317

a. Based on positive ranks

b. Based on negative ranks

Table 5: Comparison of the family needs between 24 hours and 96 hours of admission to the coronary care unit.