

# The mental health of women with suspected breast cancer: the relationship between social support, anxiety, coping and defence in maintaining mental health

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DRAGESET S. & LINDSTRØM T.C. (2003) *Journal of Psychiatric and Mental Health Nursing* 10, 401–409

## The mental health of women with suspected breast cancer: the relationship between social support, anxiety, coping and defence in maintaining mental health

Relationships between anxiety, social support, coping, and defence, in connection to mental health, were studied among patients with suspected breast cancer, awaiting diagnosis. Data were collected by questionnaires from 117 women, 25–76 years of age (mean: 53.6 years) who had undergone breast biopsy. Instruments used were: the Social Provisions Scale (SPS); the state scale of State-Trait Anxiety Scale (STAI); and CODE [based on the Utrecht Coping List (UCL) and Defence Mechanisms Inventory (DMI)]. The results showed that patients reported elevated levels of anxiety and high levels of social support. Yet, anxiety was strongest and negatively related to ‘instrumental coping’, followed by ‘cognitive defence’. ‘Defensive hostility’ was unrelated to anxiety. Unexpectedly, ‘emotion-focused coping’ and social provisions were unrelated to anxiety. Social provisions were somewhat related to ‘instrumental coping’, but sparsely related to ‘emotion-focused coping’, unrelated to ‘cognitive defence’ and partly negatively related to ‘defensive hostility’. Hence, social support and ‘emotion-focused coping’ did not in themselves repress anxiety. ‘Instrumental coping’ did, even in a situation where nothing could be done. Social support is suggested to be the product of an ‘instrumental coping style’, not necessarily contributing to it. Clinical consequences for professional information and support to patients with different coping styles are suggested.

**Keywords:** anxiety, coping, defence, social provisions, social support, suspected breast cancer

*Accepted for publication:* 31 January 2003

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## Introduction

Norway has one of the highest rates of breast cancer in the world. It is the most common cancer among Norwegian women, with one in 13 developing the disease and 750–800 women dying from it each year. Although the majority of women with symptoms of possible breast cancer have benign breast disease (NBCG 2000), the period from dis-

covery of the first symptoms until the diagnosis has been set, has been reported to be stressful (Northouse *et al.* 1995, Deane & Degner 1998, O’Mahony 2001). Levels of anxiety and other psychological distress are the same, regardless of whether the diagnosis turns out to be a benign disease, or breast cancer (Woodward & Webb 2001).

To be in a situation where one may have a potentially lethal disease is, for most people, a highly threatening

event. Threatening life events may have detrimental effects on mental health on a long-term basis, but also on a short-term basis: on how the person manages to cope with the threat from day to day. Social support and effective coping strategies, in particular their combination, are resources that may influence the extent to which a stressful situation, such as having a chronic disease, waiting for surgery, or waiting for a potentially severe diagnosis, affects mental health (Dobkin *et al.* 1998, Backer 2000).

Different components of social support are regarded as useful, depending on the specific stress experienced (Weiss 1974, Billings & Moos 1981, Cohen & Wills 1985), and social support has been proposed to be an essential resource for coping (Monat & Lazarus 1991). Studies of women with potential or actual breast cancer have concluded that those who received good social support reported less emotional distress and more adaptive coping responses (Deane & Degner 1997, Fridfinnsdottir 1997, Northouse *et al.* 1997).

However, the relationship between social support and coping may not be that simple. In the period around the breast biopsy, it has been reported that social support was regarded as positive, but the women's use of their own coping strategies was more helpful (O'Mahony 2001). Social support has also been reported to exert little influence upon psychological distress variables, compared with coping, in women receiving a cancer diagnosis (Gerits & De Brabander 1999). Social relationships have even been reported to be a source of distress and may lead to avoidance of confronting the problems directly (Krishnasamy 1996).

Coping has also been reported to have varying effects: coping through active confrontation of uncertainty prior to the diagnosis of breast cancer has been associated with better psychological adjustment (Chen *et al.* 1996), whereas avoidant coping strategies have generally been reported to have detrimental effects (Stanton & Snider 1993), but have also been suggested to act as a buffer against anxiety (Styra *et al.* 1993). Adaptive coping strategies, employed by women around the time of diagnosis, have been found to be predictive of psychological adjustment after a breast cancer operation (Stanton & Snider 1993). In general, there is agreement that adaptive coping is important in achieving and maintaining mental health; however, what constitutes adaptive coping, and what to do when patients tend to employ less adaptive strategies, still seems unclear.

Existing research concerning social support and coping in the diagnostic phase of breast cancer has focused upon overall social support in relation to coping. Little is known about how different components of social support relate to different coping and defence styles. Low levels of anxiety are supposed to be the result of good coping and support,

yet how anxiety is related to the interaction of different components of social support and different coping and defence styles, still seems insufficiently explored.

## Conceptual framework

### *Social support*

The concept of social support has been defined and operationalized in different ways, and is frequently suggested to be important in maintaining mental health (Cobb 1976, Monat & Lazarus 1991). In this study, the theoretical framework of Weiss (1974) was chosen because it incorporates the major components of most current conceptualisations of social support (Cobb 1976, Cohen & Wills 1985). Weiss's theory of social provisions represents a multidimensional view of social support, describing six different social components or provisions, each associated with a particular type of relationship:

- 'Attachment' is provided by relationships from which the person gains a sense of emotional closeness and security; absence of such relationships may result in loneliness and emotional isolation.
- 'Social integration' means being an integral part of a group. Absence of this may result in loneliness or social isolation.
- 'Reassurance of worth' is provided by relationships in which the person's skills and abilities are acknowledged. Its absence may lead to low self-regard.
- 'Opportunity for nurturance' represents a sense of responsibility for the wellbeing of others.
- 'Reliable alliance' derives from relationships in which the person can count on assistance under any circumstances. Its absence may result in a sense of vulnerability.
- 'Guidance' is provided by relationships with trustworthy individuals who can provide advice and expertise. Absence of this may cause a feeling of uncertainty and anxiety.

Weiss proposes that each provision provides a particular form of social support, although different provisions may be more or less crucial under different circumstances. An instrument, the Social Provisions Scale (SPS) (Cutrona & Russell 1987) was developed from this theory and used in the present study.

### *Coping and defence*

Various definitions and theoretical positions exist regarding coping and defence (Olff 1991). Yet, two main uses of the term 'coping' have been identified (Ursin & Hytten 1992). The first defines 'coping' as strategies (Monat & Lazarus 1991), usually classified as 'problem-focused cop-

ing', which refer to trying to tackle a problem actively and directly, 'emotion-focused coping' which refers to trying to deal with the emotional reactions to problems, and 'avoidance-focused coping' which covers various defensive and avoidant strategies (Olff 1991). The second definition of coping is 'positive response outcome expectancies' (Ursin 1988), developed within a cognitive behavioural tradition (Bolles 1972) and stress research (Ursin & Hytten 1992). This definition of coping has been frequently used in mental health-related research, and was therefore chosen for use in the present study.

Coping as 'positive response outcome expectancies' is based on the assumption that expectancies are learned, based upon experienced outcomes of behaviour, habit strength and perceived probability of the outcome. If these expectancies are perceived as positive and having a reasonably high degree of probability, then it is true 'coping': 'positive response outcome expectancies'. Coping is regarded as basically distinct from defence, in the sense that coping efforts are based on a reasonably correct perception of reality, whereas defences are based on perceptive or cognitive distortions of reality (Haan 1977, Ursin 1988). Within this tradition, coping is regarded as effective in solving problems, reducing activation and anxiety, whereas defence is not; at best it may have a 'palliative' or 'postponing' effect, but it does not solve any problems. Defensive strategies are found to cluster together and to be negatively related to mental health and anxiety (Eriksen 1998). Also, within this tradition, coping was first categorized as: 'problem-', 'emotion-' and 'avoidance-focused coping' (including defence mechanisms). To test these categories, a factor-analytical study was performed to make a classification on an empirical basis and an identification of different coping styles (Eriksen *et al.* 1997). Four styles were identified, two of which imply coping: 'instrumental mastery-oriented coping' (in the following called 'instrumental coping'), reflecting positive expectancies of coping efforts in an instrumental, active coping style; and 'emotion-focused coping' involving seeking social support, expressing emotions and using palliative responses. Two styles imply defence: 'cognitive defence', involving a variety of strategies (such as falsification of reality by denial, repression, principalization, reinterpretation, and comforting thoughts); and 'defensive hostility' implying projection and aggressive behaviours. These four coping styles have been consistently found to be related to different problem solving- and health consequences (Eriksen 1998). An instrument, CODE (Eriksen *et al.* 1997), was constructed based on this factor-analytical study, and was chosen to measure coping and defence in the present study.

The aim of this study was to investigate relationships between social provisions, anxiety, coping and defence, in

relation to the mental health of women with suspected breast cancer. Social provisions were expected to be positively related to coping ('instrumental-' and 'emotion-focused coping'), and negatively related to defence ('cognitive defence' and 'defensive hostility') and anxiety. Coping ('instrumental-' and 'emotion-focused coping'), was expected to be negatively related to anxiety, whereas defence ('cognitive defence' and 'defensive hostility') was expected to be positively related to anxiety. Finally, we will suggest clinical applications.

## Method

### Subjects

A convenience sample of 117 women (25–76 years of age, mean: 53.6 years), with suspected breast cancer who had undergone breast biopsy under local anaesthesia at a university hospital's outpatient breast clinic, participated in the survey. Criteria for inclusion were:  $\geq 18$  years of age; and able to read and write in Norwegian. Of 151 women who were asked to participate, 117 completed the questionnaires, giving a response rate of 81.8%.

### Procedure

The patients were participants in a national mammography screening programme, or were referred from their private physician. Women with an uncertain diagnosis after mammography screening were recalled for further diagnostic procedures – breast examination, mammogram, and fine needle aspiration cytology (FNAC) – after 2 weeks. When needed, patients were, in addition, recalled for surgical breast biopsy after 1–3 weeks. Some patients were scheduled for immediate breast biopsy, depending on the seriousness of the findings. The patients had to wait 1–3 weeks for the results of the biopsy.

The study was anonymous. Patients meeting the inclusion criteria were invited by a nurse to participate in the study after the breast biopsy procedure. Patients who agreed to participate received a description of the study, a consent form, the questionnaires and an envelope. The questionnaires could be filled out at home or at the hospital, but had to be returned to the researcher within a week, before the final diagnosis was given. All patients chose to fill out the questionnaires at home. Written consent was obtained from all patients, according to the Helsinki declaration (Beauchamp & Childress 1994). The present study was approved by the following: the Research Ethics Committee of Health Region 3, Norway; the hospital authorities; and the Norwegian National Mammography Screening Programme.

## Instruments

In addition to questions about demographic characteristics, the patients filled out the following:

- The State-Trait Anxiety Scale (STAI) (Spielberger *et al.* 1970). Only the state-anxiety scale (STAI-S) was used. The scale has 20 items measured on a four-point scale. High scores indicate high levels of state-anxiety. The validity and reliability of the STAI are good (Spielberger *et al.* 1970). The alpha value was 0.94 in this sample.
- The SPS (as mentioned above) (Cutrona & Russell 1987). This consists of 24 items, four for each of the six social provisions referred to in the theory of Weiss (1974): reassurance of worth; attachment; nurturance; reliable alliance; guidance; and social integration. The response categories were: strongly disagree; disagree; agree; and strongly agree. High scores indicate high levels of the provision. A total social support score is formed by summing the six individual provisions scores. The validity and reliability of the SPS are good (Cutrona & Russell 1987). The alpha values in this sample were: 0.82 for the total SPS, and as follows for the subscales: 0.50 for reassurance of worth; 0.57 for attachment; 0.57 for nurturance; 0.71 for reliable alliance; 0.77 for guidance; and 0.52 for social integration. Principal components analysis with Kaiser varimax rotation using a six-factor solution was carried out to confirm the components of the SPS. The SPS was found to reflect a global factor and, to some degree, the six separate components.
- CODE (Eriksen *et al.* 1997) consists of the Utrecht Coping List (UCL; Schreurs *et al.* 1993) and a reduced Defence Mechanism Inventory (DMI; Gleser

& Ihlevich 1969). The reliability and validity of the UCL and DMI are good (Eriksen *et al.* 1997). The alpha values in this sample were 0.83 for the UCL and 0.81 for the DMI. The UCL consists of 47 statements and measures seven coping strategies, scored on a four-point scale. The DMI consists of 60 statements and measures five defence strategies, scored on a five-point scale (Olf *et al.* 1993). CODE measures two coping factors – instrumental coping and emotion-focused coping – and two defence factors – defensive hostility and cognitive defence. High scores indicate use of the strategy. A Principal Components Analysis with Kaiser varimax rotation, using an Eigenvalue of >1.0, was conducted on the UCL and DMI. In accordance with previous studies (Olf *et al.* 1993, Eriksen *et al.* 1997), the four dimensions of the CODE were confirmed to a satisfactory degree.

## Statistical analyses

The SPSS PC statistical package, version 9.0, was used for data analysis (Norusis 1993). The statistics used were: Descriptives, Pearson's correlation, simple linear regression, multiple regression and stepwise regression. Statistical significance was set at a *P*-value of < 0.05.

## Results

Of the total sample of women in the study, 74.5% were married or cohabiting and 21.4% lived alone; 29.3% had university- or college education, and 70.9% had paid work. Mean values and standard deviations for the STAI, SPS total and subscales of the SPS, and CODE, are shown in Table 1. The mean value for state anxiety was comparable to that of 'medical and surgical patients' (Spielberger

**Table 1**

Mean values, standard deviation (SD) and ranges for the state-trait anxiety scale (STAI), total social provisions scale (SPS), subscales of SPS and CODE

	<i>n</i>	Mean	SD	Range	
				Actual	Possible
STAI	115	41.37	11.80	20–69	20–80
Total SPS	116	87.96	7.55	57–96	24–96
SPS subscales					
Opportunity of nurturance	115	12.93	2.32	4–16	4–16
Attachment	115	15.04	1.59	8–16	4–16
Social integration	115	14.76	1.46	9–16	4–16
Reassurance of worth	115	14.76	1.49	9–16	4–16
Guidance	115	15.16	2.01	4–16	4–16
Reliable alliance	115	15.29	1.86	6–16	4–16
CODE subscales					
Instrumental oriented coping	115	2.94	0.26	2–4	1–4
Emotion-focused coping	115	2.25	0.39	1–3	1–4
Cognitive defence	107	2.07	0.35	1–3	0.87–4
Defensive hostility	108	0.90	0.41	0–2	0.80–4

1983). The mean value on the total scores of the SPS was relatively high, with the highest score on 'reliable alliance' and lowest score on 'opportunity of nurturance'. On CODE, 'instrumental coping' was the most preferred coping strategy and 'defensive hostility' the least preferred. The mean values were comparable to values reported from female back pain patients and students (Eriksen *et al.* 1997).

### Relationships between anxiety, social provisions and coping/defence: correlations

Correlations (Table 2) showed that anxiety was only related to 'instrumental coping'. This was the strongest association in the correlation matrix. The strongest correlations between 'instrumental coping' and SPS subscales were found between 'attachment', 'reassurance of worth' and 'guidance'. 'Nurturance' was unrelated. All the SPS subscales were positively related to 'emotion-focused coping'. 'Attachment', 'reassurance of worth' and 'reliable alliance' showed negative relationships with 'defensive hostility'. No significant relationships were found between SPS

subscales and 'cognitive defence'. The correlations between SPS and CODE subscales were relatively low, with the strongest correlations to 'instrumental coping'.

### Relationships between anxiety, social provisions and coping/defence: regressions

The only significant relationship with STAI as a dependent variable, and the subscales of SPS and CODE, as independent variables, was found with 'instrumental coping' in simple linear regression analysis (Beta  $-0.409$ ,  $P < 0.0005$ ), accounting for 16.7% of the variance in anxiety. However, as simple regression analysis does not control for possible confounders, multiple regression analysis was performed with state anxiety as a dependent variable (Table 3). Here again, 'instrumental coping' was the strongest (negative) predictor of anxiety, followed by 'cognitive defence'. Together, all variables explained 25.5% of the variance in anxiety. Stepwise regression on the same variables showed that 'instrumental coping' explained 15.4% alone, and 'cognitive defence' 3.6%, together 19%. The social provisions did not contribute.

**Table 2**

Correlations between the state-trait anxiety scale (STAI), subscales of the social provisions scale (SPS) and CODE

CODE subscales	Instrumental-oriented coping ( $n = 114$ )	Emotion-focused coping ( $n = 114$ )	Cognitive defence ( $n = 107$ )	Defensive hostility ( $n = 108$ )
STAI	$-0.409^2$	$-0.038$	$-0.163$	$0.036$
SPS subscales				
Opportunity of nurturance	$0.137$	$0.217^1$	$-0.026$	$0.119$
Attachment	$0.354^2$	$0.222^1$	$-0.002$	$-0.289^1$
Social integration	$0.286^2$	$0.274^2$	$-0.055$	$-0.163$
Reassurance of worth	$0.346^2$	$0.244^2$	$0.011$	$-0.206^1$
Guidance	$0.318^2$	$0.281^2$	$-0.021$	$-0.168$
Reliable alliance	$0.238^1$	$0.226^1$	$-0.015$	$-0.196^1$

<sup>1</sup> $P < 0.05$ .

<sup>2</sup> $P < 0.01$ .

**Table 3**

Multiple and stepwise linear regression analysis for the state-trait anxiety scale (STAI) (dependent variable) and subscales of the social provisions scale (SPS) and CODE (independent variables)

	Multiple linear-regression STAI				Stepwise linear-regression STAI			
	B	SE	Beta	P-value	B	SE	Beta	P-value
SPS subscales								
Opportunity of nurturance	0.338	0.508	0.062	0.508				
Attachment	$-0.465$	1.140	$-0.055$	0.684				
Social integration	$-1.117$	0.938	$-0.132$	0.237				
Reassurance of worth	1.686	1.016	0.206	0.100				
Guidance	$-0.260$	0.814	$-0.039$	0.750				
Reliable alliance	$-0.574$	0.904	$-0.079$	0.527				
CODE subscales								
Instrumental oriented coping	$-21.046$	4.521	$-0.464$	0.000	$-18.396$	4.011	$-0.406$	0.000
Emotion-focused coping	4.029	2.955	0.130	0.176				
Cognitive defence	$-8.469$	3.132	$-0.252$	0.008	$-6.399$	2.968	$-0.191$	0.033
Defensive hostility	$-4.649$	2.894	$-0.159$	0.111				
(R <sup>2</sup> = Square)	(R = 0.255)				(R = 0.190)			

**Table 4**

Simple linear regression analysis for 'instrumental oriented coping' (dependent variable) and subscales of the social provisions scale (SPS) (independent variables)

SPS subscales	Simple linear regression: instrumental-oriented coping				
	B	SE	Beta	P-value	R <sup>2</sup>
Opportunity of nurturance	0.015	0.011	0.137	0.146	0.019
Attachment	0.057	0.014	0.354	0.000	0.125
Social integration	0.050	0.010	0.286	0.002	0.082
Reassurance of worth	0.060	0.015	0.346	0.000	0.119
Guidance	0.040	0.012	0.318	0.001	0.101
Reliable alliance	0.034	0.013	0.238	0.011	0.057

(R<sup>2</sup> = Square).

As 'instrumental coping' was such an important variable in explaining anxiety, a possible contribution of the social provisions to this coping style was studied with simple, multiple and stepwise regressions, with 'instrumental coping' as a dependent variable.

Simple regression showed (Table 4) that all provisions, except 'nurturance', contributed to 'instrumental coping', but as most of the SPS variables are interrelated, multiple regression could not detect any particular contributing provisions, but showed that SPS variables explained 18.2% of the variance. Stepwise regression, however, showed that 'attachment' (Beta 0.235,  $P < 0.026$ ) and 'reassurance of worth' (Beta 0.217,  $P < 0.040$ ) together explained 15.8%, and therefore were the most important and only significant contributors to 'instrumental coping'. 'Attachment' alone explained 12.5%, an indisputable, but not very important, contributor.

## Discussion

Uncertainty, particularly uncertainty pertaining to questions about life and death, is a threat to mental health, and anxiety is usually a consequence. Therefore, anxiety is a good indicator of experienced threats, which in turn may affect mental health. In this study, anxiety was found to be somewhat high, as expected, and similar to findings in other studies (Deane & Degner 1998, O'Mahony 2001). We believe that this elevated state was a result of the fact that these women were examined for possible breast cancer – a threatening and frightening situation.

Regarding coping styles, the women scored highest on 'instrumental coping' followed by 'emotion-focused coping', a finding comparable to other studies in normal populations (Eriksen 1998). 'Emotion-focused coping' is suggested to be less efficient than 'instrumental coping', but may be useful in situations where little instrumental can be done (Olff 1991), and slightly related to low anxiety (Eriksen *et al.* 1997). Here, however, 'emotion-focused coping' was not connected to low anxiety, whereas 'instrumental coping' clearly was. 'Instrumental coping' is based on pos-

itive response outcome experiences, which tend to generalize. This means that people who tend to use an 'instrumental coping' style may have experienced enough successful coping to have developed a general expectancy of being able to cope in all situations. This coping style is associated with low anxiety and reduced activation or 'stress response' (Ursin 1988). This attitude may, in itself, be anxiety reducing, even in a situation like this, where nothing could be done to influence the results of the biopsy.

In addition, and somewhat surprisingly, cognitive defence was to some extent related to low anxiety. Similar results have been reported previously (Olff 1991, Bonanno & Kaltman 1999). It may be that defences dampen anxiety in situations where 'instrumental coping' is impossible (Haan 1977). Yet, it is unclear whether reduced anxiety is a real consequence of defences, or whether the anxiety too is denied, and therefore under-reported, or both. It should be noted that 'cognitive defence' in CODE consists of various forms of defence mechanisms with varying adaptive qualities (Eriksen & Ursin 1999). Yet, there is reason to believe that generally, the anxiety-reducing effect, if any, is mainly palliative and short lasting: when confronted with inescapable problems, defensive strategies are not enough, and may be detrimental to coping and mental health (Eriksen *et al.* 1997).

Anxiety was, surprisingly, unrelated to the social provisions claimed to be helpful in similar populations (Nort-house *et al.* 1995, Fridfinnsdottir 1997). The levels of social provisions were high in this sample. This elevation may be partly because the sample consisted only of women, and women, compared to men, generally have larger social networks and more intimate friends (Cutrona & Russell 1987), and use social support more as a coping strategy (Monat & Lazarus 1991). In particular, women appreciate intimacy and confidence (Lugton 1997). These aspects of social support are emotional, and emotional qualities are suggested to be the most important aspect of 'the buffering effect' that social support may have (Cohen & Wills 1985). The patients scored highest on 'reliable alliance' followed by 'guidance'. Simply knowing that oth-

ers are available to provide advice in times of need, may decrease cognitions of helplessness, even if these individuals are never actually called upon for assistance. Therefore, we can conclude that these patients seemed to have solid networks which could support them in their difficult situation. Still, the results indicate that this support did not reduce their anxiety.

Similarly, in recent bereavement research, social support has not always emerged as an unequivocal adaptive variable (Stroebe *et al.* 1996). Expressing negative emotions, such as anxiety, may increase the emotion. Needs served and benefits gained by talking about difficulties, vary considerably, and are also dependent upon external variables, such as the social network's tolerance and willingness to listen (Kelly & McKillop 1996), and the complaining-about-the-past vs. constructing-the-future content of the dialogue (Lindström 1999). Too much talking about problems may (as expression of negative emotions) actually be aversive to the listeners, and lead to less social contact and support. In addition, interpersonal relationships may even strengthen existing stress or be inattentive to the emotional needs of the individual (Sarason *et al.* 1990); people may not always interpret the support they receive as positive (Bolger & Eckenrode 1991). Finally, there may be a mismatch between the type of social support given and the needs of the individual.

Relationships between social support and coping are frequently documented (Monat & Lazarus 1991, Northouse *et al.* 1997). Yet, seldom is the distinction between 'instrumental-oriented coping' and 'emotion-focused coping' pointed out, as in this study. This distinction seems essential. The social provisions were, although moderately, differently connected to these two coping styles, with somewhat stronger relationships to 'instrumental coping'. This is surprising, particularly as 'seeking social support' is a variable within the 'emotion-focused coping' scale in CODE. For those relying most on 'instrumental coping', 'attachment' and 'reassurance of worth' were the most important social provisions. The most important kind of social support is suggested to be emotional (Cohen & Wills 1985), affirming the importance of 'attachment'. 'Reassurance of worth', which communicates belief in the individual's abilities, is generally regarded as the core of the social support concept and may help to promote effective coping (Cobb 1976). However, two quite different explanations for the connections between 'instrumental coping' and social provisions seem equally likely. First, people who are good copers, good at solving their problems and managing their lives, are attractive to be around. Because of their good coping, they attract social contacts. Second, they may, as part of their coping style, be eager to build up and maintain a good social network. In both cases, their good social

network is a *result* of their coping style, and not a coping resource in itself, as formerly proposed (Cobb 1976, Monat & Lazarus 1991).

As expected from previous studies (Mancini & Blieszner 1992), 'nurturance' showed the lowest score of the social provisions (Table 1). Also, in contrast to the other provisions, 'opportunity of nurturance' was unrelated to 'instrumental coping', but slightly related to 'emotion-focused coping'. It is questionable whether it acts as a provision at all, because the individual is the provider, rather than the recipient of the support (Cutrona & Russell 1987). In many cases, 'to give nurturance' may be a burden and not a chosen situation. It may hamper a person's opportunities to cope with problems in an active, instrumental way, and to approach attractive challenges.

Finally, some comments must be made regarding 'defensive hostility'. Fortunately, this was the least common coping style. It consists of highly maladaptive behaviours (direct or indirect aggression, projection), and is related to high and sustained activation and poor coping, even problem-creating behaviours (Eriksen & Ursin 1999). Here, it was negatively related to the social provisions 'attachment', 'reassurance of worth' and 'reliable alliance', indicating its maladaptive nature. However, it was unrelated to anxiety, which appears to be a promising sign, but which may be a result of its low frequency in this material. Another investigation, however, has reported the same result (Eriksen *et al.* 1997). Therefore, it may be suggested that however maladaptive this defensive hostile strategy may be, it does not result in increased anxiety. If, however, frightening uncertainty and anxiety *itself* are the actual problems for someone with this coping style, it seems reasonable to assume that this person will react with aggression and/or blaming of others (projection).

In summary, 'instrumental coping' and, to a lesser degree, 'cognitive defence', were connected to low anxiety, and may therefore be factors in maintaining mental health in a stressful life situation, as in this case: undergoing diagnostic procedures. 'Emotion-focused coping' and social support, however, surprisingly did not contribute as predictors of mental health measured as low anxiety levels. These findings may have clinical implications.

### Clinical applications

To wait for test results, which could result in a serious diagnosis, is a stressful situation. At the hospital of this study, women undergoing breast biopsy meet mostly the same staff members at each appointment. They receive considerable attention from nurses and physicians, and receive guidance and information. Previous studies have found that women who had been through screening services where

good information and counselling were provided, were less emotionally affected (Northouse *et al.* 1995, Chen *et al.* 1996), coped better (Fridfinnsdottir 1997, Northouse *et al.* 1997), were more optimistic (Lauver & Tak 1995); and that continuity in the patients' contacts with the hospital staff gave a sense of security (O'Mahony 2001). Therefore, despite the present finding of no relationships between social provisions and anxiety, we maintain that good information and counselling from the staff remain important resources for the patients' coping and general mental health. However, these resources may be differently received and used because of different coping styles. The challenge for nurses and other healthcare professionals, is to be aware of the different coping styles that patients use, and provide information and support in ways which are perceived as constructive for the individual patient, reinforce their most positive coping abilities and, in general, help the patients to maintain optimal mental health.

Patients who use 'instrumental coping' benefit most from these services. This coping style was related to low anxiety and positively related to social provisions. They manage 'stress' well, cope well and have good and varied social provisions. As patients, they are usually good at getting what they need from the hospital staff: treatment, information and support.

Patients who mainly rely on 'emotion-focused coping' will tend to show emotional reactions and seek comfort and understanding from others; or will use 'palliative strategies' – ways of distracting themselves from their problems, a strategy which is related to defence (Olf 1991). This coping style was unrelated to anxiety, but positively related to the social provisions, indicating that these patients may require greater attention from the hospital staff. If they have confidence in the staff, their emotional reactions and need for comfort may be ventilated during the consultation. If so, and if the staff are receptive to these signals, this is a good opportunity for providing the extra care that these patients may need. If however, they 'distract away' their reactions, and do not show their needs and concerns to the staff, their needs may be overlooked. It is therefore a challenge for the nursing and medical staff to be sensitive to these patients and provide the care needed, although these needs may not be clearly expressed.

'Cognitive defence' was related to low anxiety, but unrelated to the social provisions. Patients who use 'cognitive defence' will tend to reject information in subtle ways. They may seem attentive, but will tend to use defensive strategies – such as reject, deny, ignore, repress, or minimize the importance of information given, particularly if it implies possible unpleasant facts. They may seem indifferent and calm, signs which may easily be misinterpreted by the staff. They seem to cope, but do not. They express, and

probably experience, little anxiety as long as their defence 'works'. Yet, several studies have shown that people who use cognitive defence react strongly on various physiological parameters (Olf *et al.* 1993), their activation lasts longer (Eriksen & Ursin 1999) and, finally, if they are confronted with inescapable problems, they perceive them slowly and reluctantly, and cope poorly. Therefore, it is reasonable to assume that they will have difficulties coping with a serious diagnosis and the ensuing problems. *Then* they may need extra attention and care. Screening programmes are particularly effective in identifying serious illness in this group. Otherwise, they are likely to deny the existence, or importance, of potentially serious symptoms. These are the people who seek medical attention 'too late' for effective treatment.

Patients who use 'defensive hostility' are also poor copers. This style has aggressive components and was negatively related to essential social provisions. Patients using this coping style are distrustful, and because of their aggressive tendencies they tend to have poor and small social networks. In difficult situations, they tend to react in a hostile manner, which drives potential 'social supporters' away. As the results indicated, they do not experience much anxiety, but the more stressed and unhappy they are, the more aggressive, defensive and offensive they may act. These patients are easily labelled 'difficult' and avoided. However, a truly 'professional eye' should be able to identify such persons and offer them adequate help – being patient, understanding and available.

Along with the concept of holistic care, it is now widely recognized that the patients' mental health may have a considerable impact on their somatic condition. Therefore, to be considerate to the patients' mental health needs is no longer regarded as an aesthetic addition to the biological and technical medical procedures, but increasingly regarded as a necessary and indispensable part of any modern diagnostic-, treatment-, or counselling regime.

## Acknowledgments

We thank Haukeland Universitetssykehus (Haukeland University Hospital), Department Breast Clinic, Mammografiseret, in Bergen, for their support and cooperation. We also thank all patients who participated.

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