FAMILY NEEDS AND ANXIETY IN ICU: CULTURAL DIFFERENCES IN NORTHEASTERN ONTARIO

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The complex biomedical skills required by intensive care unit (ICU) nurses are recognized and acknowledged. Yet, another less evident dimension of the complex technical practice of ICU nurses relates to dealing with the needs of patients' family members. This paper presents an aspect of a larger study of family needs and anxiety levels in a Northeastern Ontario population (Rukholm, Bailey, Coutu-Wakulczyk & Bailey, 1991). The aspect of this work to be presented here focuses on the influence of mother tongue on family needs and anxiety. For the purposes of this study mother tongue was used as a measure of culture. The concomitant variables measured included worries, knowledge and distance of the residence from the site of hospitalization.

The purpose of the study was to seek information on the perceived needs of family members visiting a patient in an ICU of three hospitals located in Sudbury, Ontario. These three hospitals are regional centres for Northeastern Ontario so that many subjects had travelled considerable distance for medical care. Approximately 30% of families in the region identify themselves as francophone, the remaining families are predominantly anglophone. In order to provide appropriate nursing care the question of possible differences in the expression of needs and anxiety in these two language or cultural groups should be considered. Therefore the specific objectives of the study were: to describe the needs and anxiety (trait and situational) levels of adult family members; to determine the relationship between family needs and anxiety levels; and, to examine the influence of certain socio-demographic factors on the expression of needs and anxiety in these two language or cultural groups.

Present state of knowledge

Previous research has been done on needs of families of patients hospitalized in an ICU environment (Chartier & Coutu-Wakulczyk, 1989; Molter,

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The Canadian Journal of Nursing Research

Fall 1991, 23(3), 67-81

1979; Molter & Leske, 1983; Norris & Grove, 1986). However, others such as Gillis et al. (1989) suggested that family needs of the hospitalized patient have not been adequately considered from a cultural perspective.

Leahey and Wright (1987) further contend that little has been done regarding the influence of culture and the impact of life threatening illness on family needs. Although Chartier and Coutu-Wakulczyk (1989) studied needs of ICU families in a francophone population, the question as to similarities or differences between French- and English-speaking subjects in Ontario remains.

In Molter's (1979) work, spiritual needs are addressed minimally. The spiritual dimension in modern health promotion is sensed as a critical motivational factor (McSherry & Nelson, 1987) too often neglected. Therefore, in order to explore this dimension more thoroughly, spiritual needs were expanded and looked at from a family perspective.

Hospitalization of patients in an ICU not only creates new needs amongst family members within the family system (Leske, 1986; Molter, 1979; Stillwell, 1984) but also may increase stress and anxiety levels. Cipriano (1987) reported that major surgery often generated more anxiety for family members than for the patient. Although Ritchie (1981) related the recurrence of illness as stressor rather than the milieu itself, the intensive care unit does represent a physical environment referred to by family members as intimidating and may contribute as a stressor (Hickey, 1985). Furthermore, expression of anxiety may pose a dilemma in terms of language or cultural difference in a given health threatening situation.

In regard to self-reported evaluation of anxiety, differences were found on the SCL-90-R between the American norms and French-speaking women in Quebec (Fortin, Coutu-Wakulczyk & Engelsmann, 1989), and in the Canada Health Survey (Statistics Canada, 1979). These differences suggest potential cultural influences on the expression of feelings.

Methods and Procedures

Following ethical review by the Laurentian University ethics review committee and participating hospital review committees, this study was carried out in the ICU of three Sudbury hospitals over a 3 month period in the summer of 1988. Interviews were conducted by three bilingual and two English-speaking ICU nurses trained in the interviewing process. All interviewers offered questionnaires to subjects in the language of their choice. As well, training sessions were held to increase inter-rater reliability.

A convenience sample was obtained from the total adult population of immediate family members visiting ICU patients. Prior to all interviews

informed consent was obtained. The criteria of eligibility were an age of 18 or older and able to understand and answer a written questionnaire in either French or English.

In this study, needs of family members referred to a number of factors identified in the literature and practice as important. The instrument used to measure needs was the Critical Care Family Needs Inventory (CCFNI) developed by Molter and Leske (1983) and translated and validated in French (Coutu-Wakulczyk & Chartier, 1990). To the 46 items of the scale, two items were added in lieu of the item "other" to reflect the specific context of the Sudbury's hospital policies and the region (ie: visiting hours, relationship with personnel). The CCFNI is a fout-point Likert-type scale ranging from 1 (not important) to 4 (very important). Although widely used in clinical research in its original format, little is known as to the psychometric value of the complete CCFNI. A small amount of work has been published on its reliability and validity (Cipriano, 1987).

State and trait anxiety were measured using the scales of Speilberger, Goruch and Lushene (1983) scales. Situational anxiety (STAI-A) referred to anxiety as a transient emotion evoked by a specific situation and varies according to the person's perception of the situation as menacing. On the other hand, trait anxiety (STAI-B) referred to anxiety as a relatively stable emotion predisposing individuals to perceive and react to their environment in a characteristic manner.

Both instruments consist of 20 items each with a 4 point-anchored Likert-type scale where 1 = not at all and, 4 = very much. In terms of reliability, the stability has shown a relatively high coefficient for the STAI-B scale on test-retest measures and on the Spearman-Brown homogeneity test, where as the STAI-A scale ranked lower. The internal consistency measured by Cronbach alpha yielded coefficients of 0.93 for the STAI-A and 0.90 for the STAI-B scales. The coefficients observed on the French version by Bergeron (1976) and Landry (1973) were of 0.86 and 0.90 respectively.

Worries were assessed by a five-item scale with a four-point anchor of intensity. The items of worry referred to the feelings experienced by family members when confronted with different environmental stimuli. Knowledge was also measured on a five-item scale ranging from 1-4 pertaining to information about ICU environment obtained through previous experience or a pre-operative education session. Spiritual needs referred to the religious concerns one has such as "the importance of letting the health care giver know what the patient holds as valuable in life". These needs were measured by six items with a four-point scale of importance. Finally, the sociodemographic data collected for analysis were sex, age, income, education, mother tongue, relationship to the patient and the diagnosis of hospitalization.

Statistical analyses were performed on a PC using the SPSS-X software.

Results

Sociodemographic characteristics

In the larger study a convenient sample of 166 subjects was obtained (Rukholm et al., 1991), of these subjects 155 indicated either English or French as their mother tongue. One hundred and seven subjects (69%) identified English and 48 (31%) identified French as the language spoken regularly within family and social interactions (Table 1). However only seven subjects completed the questionnaire in French.

The English-speaking subjects' mean age of 40.8 years, S.D. \pm 13.9 was similar to the franchophones' with 41.4 years, S.D. \pm 12.7, both groups ranging from 18 to 85 years. There was, however, an over representation of women (mainly spouses) independent of the language group (72% English 75% French). Although the distribution of subjects by education was similar for high school and college, there was a greater percentage of French-speaking with elementary education (31.3%) as compared to English-speaking subjects (19.6%). All of the French-speaking group were Roman Catholic versus 43% of the English-speaking group. The diagnoses of patients were mainly cardiovascular, either medical or surgical as shown in Figure 1.

As shown in Table 2, the mean scores and standard deviations on the trait and state anxiety scale for francophone subjects were higher than those reported by English-speaking subjects. The state anxiety scores for both English- and French-speaking subjects and the trait anxiety scores for French-speaking subjects were significantly higher when the scores were compared to Spielberger's (1983) norms for working adults.

Total scores were obtained for each of the instruments (CCFNI, Worries, Spiritual Needs and Knowledge) by adding the weighted scores. Mean scores, standard deviations and ranges for French and English subjects are displayed in Table 3.

The Worries Scale item scores demonstrated that noise, staff at the bedside, staff conversations and the sight of other patients were not the most upsetting elements for subjects in either group (Figure 2). For both groups, the item that created the most worry for visiting family members of patients admitted was relative's pain, followed by the level of consciousness and the number of tubes.

Table 1

Distribution of English-and French-Speaking Subjects by Age, Sex, Marital Status, Education and Religious Denomination

-	English		French	1	
Characteristics	N=107	%	N=48	%	
Age					
18 - 34	27	25.2	9	18.8	
35 - 51	51	47.7	26	54.2	
52 - 68	18	16.8	10	20.8	
69 - 85	10	9.3	2	4.2	
missing data	1	.9	1	2.1	
Total	107	100.0	48	100.0	
ex					
Female	30	28.0	12	25.0	
Male	77	72.0	36	75.0	
Total	107	100.0	48	100.0	
Marital status					
Single	20	18.7	8	16.7	
Married	81	75.7	36	75.0	
Divorced/Separated	6	5.6	1	2.1	
Widowed	0	0.0	3	6.3	
Total	107	100.0	48	100.0	
ducation					
Primary	21	19.6	15	31.3	
Secondary	40	37.4	19	39.6	
College	21	19.6	9	18.8	
University	20	18.7	50	10.4	
Refused/Not specific	ed 2	1.9	0	0.0	
Total	107	100.0	48	100.0	
eligious denomination					
Protestant	53	49.5	0 .	0.0	
Roman Catholic	46	43.0	48	100.0	
Other	8	7.5	0	0.0	
Total	107	100.0	48	100.0	

Table 2

Distribution of English- and French-Speaking Subjects by STAI-A and STAI-B Scores

19	Scores							
Instrument	N	X	SD	Range	Z			
STAI-A								
English	99	43.15	± 12.88	20-77	5.74**			
French	42	47.32	± 15.48	21-76	4.88**			
Missing data	14							
Total	155							
STAI-B								
English	97	35.92	±8.91	20-65	1.33			
French	43	38.16	± 10.74	21-76	1.99*			
Missing data	15							
Total	155							

^{*} p<.05. ** p<.0001

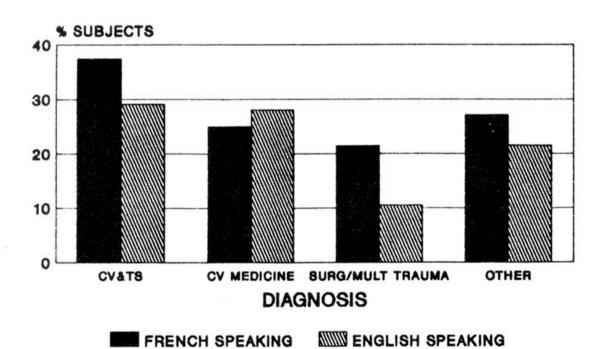


Figure 1
Subjects by Diagnosis of Patient

Table 3

Distribution of English- and French-Speaking Subjects by CCFNI, Worries, Spiritual Needs, and Knowledge Scores

		Sco	ores	
Instrument	N	X	SD	Range
CCFNI				
English	96	115.69	±19.51	57-149
French	43	118.58	± 19.62	60-142
Missing data	16			
Total	155			
Worries				
English	102	9.02	±4.73	0-20
French	48	9.17	±5.28	0-21
Missing data	15			
Total.	155			
Spiritual Needs				
English	101	12.89	± 3.21	5-18
French	47	14.40	± 3.18	0-21
Missing data	17			
Total	155			
Knowledge				
English	107	7.02	±1.76	4-11
French	47	7.23	±2.01	5-15
Missing data	1			
Total	155			

Analysis of variance

Analysis of variance of the language groups by STAI-A, STAI-B, CCFNI, Spiritual Needs, Worries and Knowledge was done. Subjects who did not complete all aspects of each instrument were excluded from this part of the analysis. Significant differences were found between language groups with respect to how upsetting subjects viewed seeing their relative in pain and expression of spiritual needs. Although worry about relative's pain was high for both groups, English-speaking subjects mean score on how upsetting subjects viewed their relative's pain was significantly higher than the French-speaking subjects scores (p<.04), as shown in Table 4. The mean score obtained for French-speaking subjects was significantly higher (p<.008) than English-speaking subjects on the Spiritual Needs scale (see Table 5).

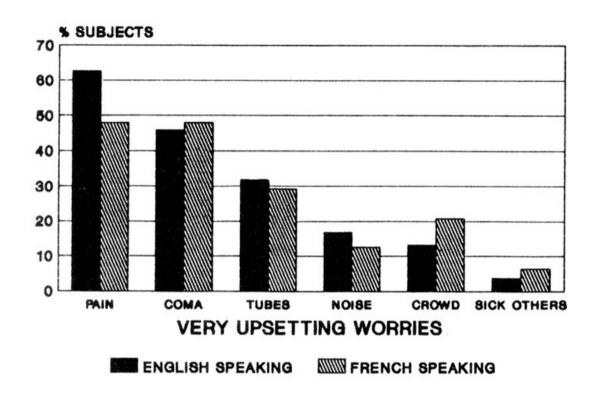


Figure 2
Subjects by Worries

Table 4

Analysis of Variance Between English- and French-Speaking Groups on Reaction to Relatives' Pain

		N	X	SD
English-Speaking		102	2.636	±1.376
French Speaking		48	2.167	±0.975
Source	df	SS	MS	F
Between groups	1	7.284	7.284	4.540

p<.04

Table 5

Analysis of Variance Between English- and French-Speaking Groups on Spiritual Needs Scale

		N	X	SD
English-Speaking		101	12.89	±3.21
French Speaking		47	14.40	±3.18
Source	df	SS	MS	F
Between groups	1	73.440	73.440	7.152

p<.008

Multiple regression

Tables 6 and 7 present the correlation matrices of the variables age, situational anxiety, trait anxiety, spiritual needs, distance, worries, family needs and prior knowledge for French- and English-speaking subjects. Again, subjects who did not complete all aspects of each instrument were excluded from this part of the analysis. The relationship between STAI-A and STAI-B (r²=.248) explains 24.8% of the variability in the two scores for the French-speaking subjects versus (r²=.166) 16.6% for the English-speaking subjects. The relationship between worries and STAI-B (r²=.317) explains 31.7% of the variability in the two scores for the French versus (r²=.076) 7.6% for the English.

Table 6

Correlation Matrix of Age(1), STAI-A(2), STAI-B(3), Spiritual Needs(4), Distance(5), Worries(6), Family Needs(7) and Knowledge(8) for French Speaking Subjects

Variables	1	2	3	4	5	6	7	8
Age	1.000							
STAI-A	268	1.000						
STAI-B	126	.498	1.000					
Spiritual	070	.106	197	1.000				
Distance	.043	247	127	.148	1.000			
Worries	145	.424	.563	.19	305	1.000		
CCFNI	135	.262	.030	.572	.075	.333	1.000	
Knowledge	.312	.260	.024	230	160	194	470	1.000

n = 34

Correlation Matrix of Age(1), STAI-A(2), STAI-B(3), Spiritual Needs(4), Distance(5), Worries(6), Family Needs(7) and Knowledge(8) for English-Speaking Subjects

Variables	1	2	3	4	5	6	7	8
Age	1.000						1	
STAI-A	246	1.000						
STAI-B	018	.408	1.000					
Spiritual	.204	.140	.168	1.000				
Distance	.084	.065	203	066	1.000			
Worries	238	.521	.275	.144	.110	1.000		
CCFNI	.024	.350	.313	.458	.143	.367	1.000	
Knowledge	.179	084	013	.044	013	138	.012	1.000

n=79

Table 7

The regression analysis (Table 8) shows that, when family needs are considered as a dependent variable for French-speaking subjects, then spiritual needs and knowledge demonstrate a significant influence and explain 45% of the variance. The regression analysis presented in Table 9 shows that when family needs are considered as a dependent variable for English-speaking subjects, then spiritual needs and worries demonstrate a significant influence and explain 30% of the variance.

Table 8

Regression Analysis of Family Needs with Spiritual Needs and Knowledge for French-Speaking Subjects

Multiple R Multiple R Sq. Standard Error	.66918 .44781 13.17048			
Analysis of Variance	Sum of Sq.	d.f.	M.Sq.	Probability
Regression	4360.80835	2	2180.4041	7 0.0001
Residual	3772.30930	31	173.4619	5
Intercept	Coefficient 107.69035	Sd error	T	Probability
Spiritual Needs	2.40757	.67494	3.567	0.0012
Knowledge	-2.83027	1.08557	-2.607	0.01

Table 9

Regression Analysis of Family Needs with Spiritual Needs and Worries for English-Speaking Subjects

Multiple R	.55009			
Multiple R Sq.	.30260			
Standard Error	17.07992			
			14.5	n
Analysis of Variance	Sum of Sq.	d.f.	M.Sq.	Probability
Regression	9620.04932	2	4810.02466	5 0.0000
Residual	22170.98865	76	291.72353	3
	Coefficient	Sd error	T	Probability
Intercept	71.05608			•
Spiritual Needs	2.56785	.60072	4.275	0.0001
Worries	1.26183	.39680	3.180	0.002

Table 10

Regression Analysis of Situational Anxiety (STAI-A) with Trait Anxiety (STAI-B) and Family Needs (CCFNI) for French-Speaking Subjects

Multiple R	.61782			
Multiple R Sq.	.38710			
Standard Error	12.76405			
Analysis of Variance	Sum of Sq.	d.f.	M.Sq.	Probability
Regression	3319.05178	2	1659.52589	0.0004
Residual	5376.39297	33	162.92100)
	Coefficient	Sd error	T	Probability
Intercept	-9.65215			
STAI-B	.72820	.21007	3.466	0.0015
CCFNI	.23876	.10359	2.305	0.0276

The regression analysis presented in Table 10 shows that when situational anxiety is considered as a dependent variable for French-speaking subjects then trait anxiety and family needs demonstrate a significant influence and explain 39% of the variance. However, when situational anxiety is considered as a dependent variable for English-speaking subjects (Table 11), then worries and trait anxiety demonstrate a significant influence and explain 34% of the variance.

Table 11

Regression Analysis of Situational Anxiety (STAI-A) with Worries and Trait Anxiety (STAI-B) for English-Speaking Subjects

Multiple R Multiple R Sq. Standard Error	.58450 .34164 10.96237			
Analysis of Variance	Sum of Sq.	d.f.	M.Sq.	Probability
Regression	4801.81070	2	2400.90535	0.0000
Residual	9253.36936	77	120.17363	3
Intercept	Coefficient -9.65215	Sd error	T	Probability
Worries	1.18730	.26179	4.535	0.0000
STAI-B	.41282	.13796	2.992	0.0037

Discussion

Although the subjects are representative of English- and the French-speaking people in this region, the study findings are biased by the over-representation of females in this sample. Despite the availability of bilingual interviewers and questionnaires, the majority of French-speaking subjects chose to complete the interview in English. This discrepancy between the spoken language of the francophone subjects and their ability or willingness to use the same language in the written and reading material may be explained by the paucity of French language schools in the Northeastern Ontario Educational system some 20-50 years ago. Therefore, for older subjects, although their spoken language of comfort was French, their preference for written English may reflect the previous lack of French educational institutions in this community.

The study results also suggest that the ICU environment is stressful for relatives in both language groups. Similar to the findings of other studies (Fortin et al., 1989), French-speaking subjects' trait and state anxiety mean scores were significantly higher than English norms. However, analysis of variance revealed no significant difference between language groups.

The French sample size is small compared to the English sample and, as such, the analysis of variance should be viewed with caution. Additional study is needed with a larger randomly selected population to clarify cultural influence on the expression of anxiety for relatives of ICU patients. As well, further research is needed to understand the puzzling finding that English-speaking subjects rated their distress at seeing a relative in pain more highly than French-speaking subjects.

As inferential analysis has demonstrated, spiritual needs contributed significantly to family needs for both language groups. This finding supports the previous work of McSherry (1987) and Wilson (1989) that spiritual needs are an important dimension of family care. However, the groups differed on the second factor contributing to the expression of family needs: knowledge for the French-speaking subjects and worries for the English group.

In addition, for both language groups, trait anxiety was a significant factor in the expression of situational anxiety. For the French population trait anxiety was the most significant factor, followed by family needs. Whereas, for the English population, although trait anxiety was a significant contributing factor, worries was the most important determinant in understanding the expression of situational anxiety.

Similar to Leahey and Wright (1987), if language is accepted as a vital component of culture, then these results suggest that there are cultural influences that affect the expression of family needs and anxiety in an acute illness situation.

In conclusion, despite the limitations of a non-random sample and instruments with limited validity and reliability, the differences identified between these language groups have important implications for further research.

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Research funded by: Laurentian University Research Fund (LURF).

RÉSUMÉ

Besoins familiaux et anxiété dans les USI: différences culturelles dans le nord-est de l'Ontario

Le but de cette étude est de faire ressortir: 1) les besoins et les niveaux d'anxiété des membres de langue française et anglaise des familles de patients hospitalisés à l'unité des soins intensif; 2) la relation entre les besoins et l'anxiété de caractère et situationnelle des deux groupes; 3) les facteurs socio-démographiques influençant ces variables. L'étude d'une durée de trois mois a regroupé 48 familles de langue française et 107 de langue anglaise. L'échantillon de convenance comptait 166 sujets qui ont été interrogé au moment où ils visitaient un patient à l'unité des soins intensifs de l'un des trois hôpitaux de Sudbury. Les données ont été recueillies à partir des questionnaires auto-administrés Critical Care Family Needs Inventory (CCFNI) (Molter and Leske, 1983) et State Trait Anxiety Inventory (STAI) (Spielberger, 1983). La version française de CCFNI traduite et adaptée par Coutu-Wakulczyk et Chartier (1990) a été utilisée. L'échantillon était majoritairement composée de femmes (75% de langue française/72% de langue anglaise). Les résultats de l'échelle de l'anxiété de caractère du STAI pour les sujets de langue maternelle française étaient significativement plus élevés que ceux obtenus par Spielberger (1983) (Français STAI-B: X=38.16, S.D. +10.74, p<.05). Les résultats de l'anxiété situationnelle du STAI ont démontré des scores moyen pour les deux groupes qui sont significativement plus élevés que ceux rapportés par Spielberger (1983) (Anglais: p<.0001; Français: p<.0001). Pour les deux groupes de langues différentes, les besoins spirituels ont démontré une influence significative sur l'expression des besoins des familles; de plus, l'anxiété de caractère montre une influence significative sur l'expression de l'anxiété situationnelle.