SOCIAL SUPPORT AND CERVICAL AND BREAST CANCER SCREENING PRACTICES AMONG NURSES

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This cross-sectional epidemiological study was carried out at three public hospitals in Rio de Janeiro, RJ, Brazil. It aimed at analyzing the association between social support and cervical and breast cancer early detection practices among nurses. Data were collected through a multidimensional questionnaire focusing on socio-demographic and occupational variables, the performance of the breast self-exam, the Papanicolaou smear test, and social support (Medical Outcomes Study scale). Statistical associations were evaluated through the Chi-square test (p d" 0.05). Logistic regression tests were used for multivariate analysis. Higher levels of social support consistently increased the chances of individuals reporting adequate practices concerning breast self-examination and having Pap smear tests performed, regardless of socio-demographic or occupational variables. These results corroborate the hypotheses that social support has a positive effect on the regular practice of self-care.

DESCRIPTORS: social support; breast self-examination; vaginal smears; self care; occupational health; nursing

APOYO SOCIAL Y RASTREO DE CÁNCER UTERINO Y DE MAMA ENTRE LAS TRABAJADORAS DE ENFERMERÍA

Estudio epidemiológico, seccional, realizado en tres hospitales públicos de Río de Janeiro, en Brasil, con el objetivo de analizar la asociación entre el apoyo social y las prácticas de detección precoz de cáncer uterino y de mama entre trabajadoras de enfermería. Los datos fueron recolectados a través de un cuestionario multidimensional referente a variables socio demográficas y ocupacionales, a la realización del Papanicolaou, al auto examen de las mamas y al apoyo social (escala Medical Outcomes Studiy). Las asociaciones estadísticas fueron evaluadas a través de la prueba chi-cuadrado con niveles de significancia de 5%. Se utilizó la regresión logística para el análisis multivariado. De manera consistente, mayores niveles de apoyo social aumentaron las chances de la realización de prácticas adecuadas, del examen Papanicolaou y del auto examen de las mamas, después de ajuste por variables socios demográficos y ocupacionales. Esos resultados corroboran las hipótesis sobre la contribución positiva del apoyo social para la práctica regular de cuidados con la salud.

DESCRIPTORES: apoyo social; autoexamen de mamas; frotis vaginal; autocuidado; salud laboral; enfermería

APOIO SOCIAL E RASTREAMENTO DE CÂNCER UTERINO E DE MAMA ENTRE TRABALHADORAS DE ENFERMAGEM

Estudo epidemiológico, seccional, realizado em três hospitais públicos do Rio de Janeiro, Brasil, com o objetivo de analisar a associação entre o apoio social e práticas de detecção precoce de câncer uterino e de mama entre trabalhadoras de enfermagem. Os dados foram coletados através de questionário multidimensional referente a variáveis sociodemográficas, ocupacionais e à realização do Papanicolaou, autoexame das mamas e apoio social (escala Medical Outcomes Study). Associações estatísticas foram avaliadas através do teste qui-quadrado com níveis de significancia de 5%. Utilizou-se a regressão logística para análise multivariada. De maneira consistente, maiores níveis de apoio social aumentaram as chances de realização de práticas adequadas do exame Papanicolaou e de autoexame das mamas, após ajuste por variáveis sociodemográficas e ocupacionais. Esses resultados corroboram as hipóteses sobre a contribuição positiva do apoio social para a prática regular de cuidados com a saúde.

DESCRITORES: apoio social; auto-exame de mama; esfregaço vaginal; autocuidado; saúde do trabalhador; enfermagem

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INTRODUCTION

With more than 10 million new cases every year, cancer has become one of the most threatening diseases in the world[1]. Breast cancer is the most frequent type of cancer among women and probably the most feared due to its frequency and psychological effects related to the perception of sexuality and a person's self-image[2]. Cervical cancer is the second most common type of cancer in Brazil[1].

Due to the high rates of mortality and physical and emotional sequelae these two types of cancer cause, their prevention and early identification is of great importance in considerably improving the probability of cure[1]. Early detection requires, on the one hand, health services to provide screening exams and, on the other hand, the voluntary search for these services. However, several factors can influence adherence to breast and cervical cancer detection practices. Among these aspects, the ones related to socioeconomic conditions are highlighted such as: schooling, income, residence in rural or urban areas[4]. Other factors are related to women's access to health programs and services that provide screening exams, access to regular health service or a professional of reference, and also women's perceptions of their own health conditions, history of cancer among acquaintances or family members and lifestyle[4]. In addition to these factors, several international studies[5-9] have stated that social support also promotes preventive health care.

Social support is related to resources supplied by the individual's social network when in need[10] and can be measured through the individual's perception of the degree to which interpersonal relationships correspond to certain functions, i.e. emotional, material and affective support[11]. The power of social networks theory is based on the assumption that the social network structure, by itself, is highly responsible for determining individual attitudes and behavior through access to resources and opportunities, and stimuli to behaviors[9-10]. The central idea is that lifestyle, exposure to certain stressful events in life, chronic stressing experiences and psychological resources of individuals are generated in the context of the social structure in which people live[10].

In the context of studies in Brazilian nursing, the importance of social support has been recently emphasized[11-14]. However, few national studies evaluate the relation of social support to women's preventive practices. Acknowledging the importance of social support in different health contexts is essential both for planning nursing care and for developing studies that can be applied in such care[12].

This article presents part of the results of the project "Gender, work and health in nursing professionals: morbidity and its association with night shifts, long work hours and domestic work". The general objective of this larger study is to investigate the relationship between hospital work organization and the health and well being of nursing professionals. This article specifically aimed at identifying the association between social support and certain practices related to the early detection of female cancer (vaginal cytology and breast self-exam) in the context of nursing professionals working in hospitals.

METHOD

This sectional epidemiological study included the whole team of nursing professionals from three public hospitals in Rio de Janeiro, RJ, Brazil. Of the total of 1,505 eligible workers, 1307 (86.8%) agreed to participate. Data collection was carried out between June 2005 and February 2006 during the nursing professionals' work hours in private rooms. The questionnaire was applied by trained interviewers after three sets of pre-tests and a pilot-study. The questionnaire included sociodemographic data (age, schooling, marital status, children, *per capita* income, color/race) and occupational information (professional category at the hospital, years working in nursing, job in another hospital, type of work contract and weekly work hours). Social support was measured through the Medical Outcomes Study scale – Social Support Survey (MOS-SS), originally in English[15], translated to and validated in Brazilian Portuguese[16]. It is a 19-item scale comprised of five functional dimensions of social support[15]: *material* (four questions – supply of practical resources and material help); *affective* (three questions – physical demonstration of love and affection); *emotional* (four questions - positive expressions of affection, understanding and feelings of trust); *positive social interaction-PSI* (four questions – availability of people to have fun or relax) and *information* (four questions – people's openness to receiving advice and guidance). Participants had to indicate the frequency they considered each type of support was available

to them in case of need: "none of the time", "a little of the time", "some of the time", "most of the time", "all of the time" [15-16].

Although the social support scale was originally developed to measure five dimensions, the factorial analysis showed, both in its original version[15] and for the Brazilian[16] context, that the emotional dimension could not be discriminated from the informational dimension. Additionally, the results from the evaluation of the Brazilian version[16] indicated that the items of positive social interaction support could not be discriminated from affective support items, and constituted a single dimension (affective/positive social interaction). Hence, we opted, based on the study analyses, to use three dimensions of support: 1-"material", 2-"emotional/informational" and 3-"afective/positive social interaction (PSI)". To facilitate comparisons between these dimensions, we standardized them using the ratio of the obtained scores from the set of questions of each dimension and the maximum values of possible scores according to the number of questions. The result of this ratio was multiplied by 100[11-12]. Then, this score was divided into terciles, indicating that the higher the obtained score, the higher the level of social support.

The breast self-exam (BSE) was investigated through the question: *How frequently do you self-examine your breasts, aiming to check for lumps or any abnormality?* Responses were classified into two categories[17]: 1 – practice – includes all those who perform BSE "every month" or "almost every month" and 2 – do not practice – includes all those who "rarely" or "never" perform the BSE.

The frequency participants have a Papanicolau smear done was investigated through the question *When was the last time you had a preventive exam for cervical cancer done?* Responses were again classified into two categories: 1 – inadequate practice – for those who answered "never have", "between two and three years", "between three and five years" and "for more than five years" and 2 – adequate practice – for those whose answer was "less than one year" or "between one and two years" [18].

Univariate and bivariate analyses were performed to verify the association between social support and screening practices evaluated with each of the studied sociodemographic co-variables (age, schooling, marital status, race/ethnicity, *per capita* income, children) and occupational co-variables (professional category at the hospital, another job, type of employment contract, years working in nursing and weekly work hours). In this stage, the Person's Chi-square test was used to verify if associations presented statistical significance at 10% ($p<0.10$). This criterion was used to select potential confounding variables. Those variables which were found to be associated both with the exposure and the outcome were included in the multivariate models through logistic regression.

The research project was approved by the Ethical Committees at the hospitals where the study was conducted and also by the CONEP in Brasilia (No. 10228) because it is partly supported by an international institution.

RESULTS

Of the studied nursing workers, 28.4% were between 46 and 55 years old, 43.3% were married, 59.6% had children, 53.9% had completed high school, 36.8% self-reported as being white and 31.8% had a *per capita* income between R$ 350 and R$ 699 (Table 1).

Table 1 – Sociodemographic distribution of studied nursing workers (n=1307)

Variables	n*	%
Age (years)		
18 to 25	259	19.8
26 to 35	237	18.1
36 to 45	278	21.3
46 to 55	371	28.4
56 or older	153	11.7
Schooling		
Complete Elementary school	97	7.4
Complete High School	704	53.9
Bachelor's degree	504	38.6
Marital status		
Married	566	43.3
Widowed/separated/divorced	277	21.2
Single	460	35.2
Race/ethnicity		
Black	312	24
Dual heritage	455	34.9
White	479	36.8
Indian	56	4.3
per capita family income		
<R$ 350,00	188	14.4
Between R$ 350,00** and R$ 699,99	416	31.8
Between R$ 700,00 and R$ 1.049,99	282	21.6
≥R$ 1.050,00	407	31.1
Children		
Yes	779	59.6
No	528	40.4

*the category "not-informed" was excluded
**NT. Exchange rate ~ 2 Reais/USD

Almost half of the interviewees were nursing technicians, 29.5% nurses and 21.4% nursing auxiliaries; 51.9% were hired as nursing auxiliaries; 36.3% reported they had another job in nursing and 51.1% had a temporary contract with another institution (outsourcing). A third reported they had worked for less than five years in the nursing profession and another third, between 21 and 30 years. More than half (53.7%) reported they worked only the day shift, 26% only at night and 20.3% in both shifts (night and day). In relation to workload 52.4% reported they worked more than 40 hours a week considering all jobs (Table 2).

Table 2 – Occupational characteristics of the studied nursing workers

Variables	n*	%
Professional category according to educational level		
Nurse	386	29.5
Technician	642	49.1
Auxiliary	279	21.4
Professional category at the hospital		
Nurse	365	27.9
Technician	264	20.2
Auxiliary	678	51.9
Work in another institution		
Yes	475	36.3
No	832	63.7
Work contract		
Permanent	637	48.9
Temporary	666	51.1
Time in the nursing profession		
0 to 5 years	434	33.2
6 to 10 years	118	9
11 to 20 years	253	19.4
21 to 30 years	442	33.8
31 or more	60	4.6
Working hours		
Day	701	53.7
Night	340	26
Mixed	265	20.3
Weekly work hours		
Up to 40 hours	622	47.6
From 41 to 60 hours	431	33
≥61hours	254	19.4

* the category "not informed" was excluded

Statistically significant ($p<0.05$) associations were found between the dimensions of social support and the studied sociodemographic variables. Results showed that the youngest, with the highest level of schooling, highest income, married, without children and who self reported as being white obtained the highest scores of social support (these results are not presented in the tables).

In relation to female cancer screening practices, we observed that almost 83% had a Pap smear test done between one and two years. However, 3.7% had never been screened and 12.7% had it performed more than two years before. In regard to the BSE, 8.4% reported they had never performed it, 53.9% rarely or sometimes performed it and 36.6% performed it almost every month or every month (Table 3).

Table 3 – Description of female cancer detection practices among studied nursing workers

Female self-care practices	n*	%
Date of last preventive exam (Pap smear test)		
Never	48	3.7
More than 2 years ago	166	12.7
Between 1 and 2 years	1084	82.9
Breast self-exam		
Never	110	8.4
Rarely/sometimes	704	53.9
Almost every month/every month	478	36.6

* categories "not informed" were excluded

In the multivariate analysis, adjusted by sociodemographic and occupational variables, considered confounding variables, the odds of having a Pap smear done was 58% higher (OR=1.58; CI=1.07- 2.34) in the 3rd percentile (higher levels of support) when compared to the 1st percentile (lower levels of support) of social support.

Concerning the dimension of positive social interaction/affective social support, the odds of having a Pap smear done among those who showed intermediary levels of social support was 70% higher (OR=1.70; CI 95%=1.16- 2.47) and for those with higher levels of social support (3rd tercile), the odds was 84% higher (OR=1.84; CI 95%=1.24- 2.71), as compared to workers classified in the group with the lowest positive social interaction/affective social support (first tercile).

It was not possible however to identify any association between material support and emotional support/information and the Pap smear test (Table 4).

Table 4 – Prevalence and odds ratio (raw and adjusted OR) of having the Papanicolaou smear test done according to the score terciles of the social support dimensions

Social support	Adequate Pap smear		Inadequate Pap smear		Crude OR (CI 95%)	Adjusted OR* (CI 95%)
	n	%	n	%		
Global						
20 to 79	305	79.2	80	20.8	1	1
80 to 95	329	83.5	65	16.5	1.32(0.92 - 1.91)	1.27(0.87- 1.85)
95.1 to 100	369	86.2	59	13.8	1. 61(1. 17- 2.45)	1.58(1.07- 2.34)
Material						
20 to 79	340	79.4	88	20.6	1	1
80 to 99	371	85.5	63	14.5	1.52(1.07 - 2.17)	1.43(0.98- 2.07)
100	352	85	62	15	1.47(1.03 - 2.10)	1.43(0.98-2.08)
Emotional/informational						
20 to 77.4	316	80.6	76	19.4	1	1
77.5 to 97.4	371	83.6	73	16.4	1.22(0.86- 1.74)	1.19(0.82- 1.71)
97.5 to 100	354	85.3	61	14.7	1.40(0.96- 2.02)	1.31(0.88- 1.95)
PSI/affective						
20 to 82.7	286	77.1	85	22.9	1	1
82.8 to 99.9	365	85.3	63	14.7	1.72(1.20- 2.47)	1.70(1.16- 2.47)
100	388	87	58	13	1.99(1.38- 2.87)	1.84(1.24- 2.71)

*Adjusted for the co-variables that presented statistical association (p<0.10) in the bivariate analysis between social support and the Pap smear: age, schooling, marital status, income *per capita*, children, years working in nursing and weekly work hours

Analyses of association of support social levels with BSE, adjusted by the confounding variables, showed that the odds of performing the BSE was 54% higher (OR=1.54; CI95%=1.14-2.07) in the last tercile of global social support than in the first.

Additionally, those workers classified in the third tercile of emotional support/information and in the third tercile of the PSI/affective had higher odds of performing the BSE (43% and 80% higher, respectively), compared to the first tercile group, which confirms that there is a direct association between the scores of the global social support dimensions and BSE (Table 5).

Similar to the Pap smear test, material support was not associated to greater/lesser chances of performing the breast self-exam among the evaluated workers (Table 5).

Table 5 – Prevalence and odds ratio (raw and adjusted OR) of performing the BSE according to score terciles of social support dimensions

Social support	Practice BSE		Do not practice BSE		Crude OR (CI 95%)	Adjusted OR* (CI 95%)
	n	%	n	%		
Global						
20 to 79	124	32.4	259	67.6	1	1
80 to 95	137	34.9	255	65.1	1.12(0.83-1.51)	1.16(0.86-1.58)
95.1 to 100	183	42.9	244	57.1	1.57(1.17-2.10)	1.54(1.14-2.07)
Material						
20 to 79	139	32.5	289	67.5	1	1
80 to 99	165	38.4	265	61.6	1.30(0.98- 1.71)	1.28(0.96-1.71)
100	166	40.3	246	59.7	1.40(1.06- 1.86)	1.33(0.99-1.78)
Emotional/informational						
20 to 77.4	134	34.4	255	65.6	1	1
77.5 to 97.4	147	33.2	296	66.8	0.94 (0.71- 1.26)	0.94(0.70-1. 26)
97.5 to 100	179	43.3	234	56.7	1.46(1.09- 1.94)	1.43(1.06-1.93)
PSI/affective						
20 to 82.7	113	30.6	256	69.4	1	1
82.8 to 99.9	148	34.7	278	65.3	1.21(0.89 - 1.62)	1.25(0.92- 1.70)
100	197	44.3	248	55.7	1.80(1.35 - 2.40)	1.80(1.33- 2.44)

*Adjusted for the co-variables that presented statistical association (p<0.10) in the bivariate analysis between social support and BSE: age, marital status, children and another job

DISCUSSION

The studied group presented long work hours with a high percentage of workers with more than one job. These characteristics attest to the aspects already discussed by other authors[19] concerning a double and triple workload for nursing workers in Brazil, which includes multiple jobs in the nursing profession and domestic tasks. In addition to the consequences on the health of these workers with potential risks to patients, such conditions can also restrict their time and motivation to focus on self-care.

Not all women reported adequate frequency of the cervical cancer screening test and the breast self-exam. The percentage of nursing workers who had never had a Pap smear done or had it done more than two years ago is worth noting. The frequency this exam is performed among the studied individuals is similar to that identified in other Brazilian cities such as Porto Alegre, Florianópolis, Curitiba, Rio de Janeiro and São Paulo[20]. It is worrying if we consider that the study in these cities included the population in general. These results point to the need for health promotion strategies among nursing workers.

The results indicate that the proportion of the study participants who perform the breast self-exam is smaller than that found in technical administrative workers of a public university at Rio de Janeiro, RJ, Brazil[17]. If we consider that this study exclusively focused on nursing workers, who are probably familiar with the BSE and know how to perform it appropriately, we can infer that having knowledge about the exam does not necessarily determine its practice. This observation is in agreement with some results[21] showing that less than a third of women performed the BSE, though 96% of them reported being familiar with it. It is important to highlight that the Ministry of Health[1] does not recommend the breast self-exam as an isolated strategy of early breast cancer detection. Its recommendation is to perform the BSE as part of health education actions that include knowledge of women's own body. Thus, this practice was considered in this study as a proxy of health self-care.

We also observed an association between higher levels of social support and adherence to cervical cancer screening practices (vaginal cytology) and the BSE. Adjusted analyses revealed that nursing workers who reported higher levels of global social support and PSI/affective also reported higher frequencies of the Pap smear test.

Social support and its potential relationship to the cervical cancer screening exam has been less studied that the BSE. However, it has already been shown[5] that having a regular physician and talking to friends about issues related to health is associated with a more adequate frequency of having the Pap smear test. From this perspective, cancer screening is a relevant challenge to women who are at the same age and friends can facilitate information gathering and clarify doubts about the exam. However, the importance of the family in influencing such practice cannot be overlooked, especially the husband in case of married women[5].

The results reveal that social support has similar importance in the two studied practices. However, a U.S. study[6] ascertained that social support has stronger influence on adherence to the Pap smear test than to the breast self-exam in Hispanic populations living in the United States.

In the case of the BSE, the results showed that among those who reported higher levels of global social support, emotional/informational and PSI/affective, we also identified a higher frequency of adequate practice of BSE. Similar results were identified in a study that evaluated the impact of social support (using the same scale as this study) in breast cancer screening practices in a population of more than 55,000 women[8], showing that high levels of emotional support/information and social interaction were independently associated to more adequate practices of breast cancer screening (mammography, BSE and breasts clinical exam). The authors did not identify association between material support and BSE, which is also similar to this study's results. In fact, the dimensions related to the emotional aspect (having someone to share affection) seems to have more influence on self-care than the dimension related to the supply of material resources[8] Other studies[7-9] have consistently shown the influence of social support in breast cancer screening practices that include BSE.

The mechanism explaining the influence of social support on behaviors related to health has not yet been clarified. Social support networks can provide practical assistance, directly encourage preventive behaviors or provide emotional support that would favor or facilitate adherence to preventive practices. The rationale is that social support favors the

empowerment of health care as it facilitates access to information and transference of knowledge, and provides encouragement[9]. Other authors[10] also point to the importance of social influence in which the social environment would establish somewhat acceptable behavioral standards, while certain social ties would promote higher access to health services.

CONCLUSIONS

This study identified a considerable proportion of nursing workers with inadequate preventive practices in relation to cervical and breast cancer screening practices, showing that prevention opportunities are being lost in the context of the studied hospitals.

Analysis revealed that nursing workers who reported higher levels of global social support and positive social interaction/affective also reported higher frequencies of adequate practices in relation to cervical cancer (Pap smear test). In the case of the BSE, in addition to these dimensions, the emotional social support/affective were also associated with adequate practices. Thus, this study corroborates the results of other studies that point out the importance of social support in the adoption of female preventive health practices. This consistency of result attests to the positive contribution of social support to the regular practice of health care. This knowledge needs to be disseminated among nursing workers and taken into account in programs aimed to encourage female cancer screening practices. Therefore, investing in programs that value and strengthen social ties can contribute to collective and individual health promotion[9].

Qualitative and quantitative studies aiming to clarify the specific attributes of emotional support/ information and PSI/affective and their relation with female cancer detection practices are needed. Additionally, the identification of the more important types of social relationships that positively or negatively influence health practices (i.e. relationships with co-workers, health professionals, family members, friends, etc) can support more effective preventive strategies that take the social environment into account.

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