

# Interprofessional collaboration and collaboration among nursing staff members in Northern Greece

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**A I M :** This study aimed at assessing satisfaction from collaboration among nursing staff members as well as between nurses and physicians, and to determine factors influencing their collaboration.

**B A C K G R O U N D :** Studies investigating the collaboration among nursing staff members are mainly focused on its negative effects in their work, on horizontal violence among nurses, on colleagues' aggression, and on verbal abuse. Multidisciplinary and interprofessional working is currently a priority in health care.

**M A T E R I A L - M E T H O D :** The study is descriptive. The data collection was carried out through a self-administered questionnaire, which was developed by the researchers. The participants were 336 nursing staff members working in hospitals in the greater area of Thessaloniki.

**R E S U L T S :** 87.8% agree that colleagues in the hospital help one the other, and 76.9% agree that there is teamwork and collaboration between the various levels of nursing staff. Almost half (50.5%) disagree that no-one does not undermine the efforts of the other. Many nursing staff members (50.6%) agree that physicians collaborate very well with them. More than a half of the sample (56%) disagree that physicians have a complete picture of the activities of a nurse and 57.7% disagree that physicians underestimate too much the nursing staff.

**C O N C L U S I O N S :** Since the nursing work environment has a critical impact on patient safety, nursing staff members and physicians should make an effort to collaborate well and to provide quality services.

**K E Y - W O R D S :** Interprofessional collaboration, nurses, nursing, physicians, Greece



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## INTRODUCTION

The quality of relations and cooperation between the staff members of an organization determines the success of their goals (Blanchett 1994). In multi-professional health care settings, the interprofessional collaboration and the collaboration among nurses is essential for their effective operation (Blanchett 1994).

In modern health care systems, the nursing work environment has a critical impact on patient safety (Lin & Liang 2007). Interprofessional collaboration between physicians and nurses is crucial for patient care (Lockhart-Wood 2000, Hojat et al 2001) and there will be benefits particularly for patients, if they work well together as colleagues (Blickensderfer 1996).

The World Health Organization supported that "In caring for patients, the nurse collaborates with other members of the health care team. The nurse works closely with the doctor, as well as with other nurses, physical therapists, and any other professionals involved in the patient's care. In many hospitals today the team members together plan the care of the patient" (WHO 1997).

## BACKGROUND

Collaboration is a process of common work with acceptable goals and philosophy, while the comprehension of particular characteristics of the individuals (such as competencies, knowledge, personality, and behavior) is essential (Wheeler, Powelson, Kim 2007).

It is obvious that collaboration in health care settings is connected with team work, since patient care demands an interprofessional and multidisciplinary approach (D'Amour, Sicotte, Levy 1997). Teamwork is a dynamic process involving two or more healthcare professionals with complementary backgrounds and skills, sharing common health goals and exercising concerted physical and mental effort in assessing, planning, and evaluating patient care. This is accomplished through independent collaboration, open communication and sharing decision making, and generates value-added outcomes (Xyrinchis & Ream 2008).

Various studies on hospital workplace environment have demonstrated that nursing is stressful and among the reasons for problems in the nurses' working relations (Farrel 1997, Hillhouse & Adler 1997, French et al 2000, McVicar 2003, Begat, Ellefsen, Severinsson 2005, Ilhan et al 2008). Studies investigating the relationship among nurses are primarily focused on its negative effects in their work (Hillhouse & Adler 1997, French et al 2000, McVicar 2003, Begat, Ellefsen, Severinsson 2005). Ilhan

et al (2008) stated that nurses are generally considered a high-risk group regarding work stress and burnout, and nurses should improve their working conditions, especially relationships with colleagues. Some studies reported that there was horizontal violence among nurses (Duffy 1995, Farrel 1997), while others indicate that nurses are most concerned about their colleagues' aggression towards them (Farrel 1997, Farrel 1999).

Multidisciplinary and interprofessional working is currently a priority in health care (Collins 2005). Many professionals support the collaboration because they believe that it improves the quality of care. During the last decades, the interprofessional healthcare team is the focus of interest, because quality of care depends on collaboration, competencies of health care providers and knowledge (Hall & Weaver 2001, Collins 2005).

The issue of collaboration between nurses and physicians has been extensively studied (Martin et al 2005, Varizani et al 2005, Reader et al 2007, Reeves & Lewin 2004, Cowan et al 2006, Curley, McEachen, Speroff 1998). Varizani et al 2005 (p. 71) stated that "collaboration has been defined as an interaction between doctor and nurse that enables the knowledge and skills of both professionals to synergistically influence the patient care being provided".

It has been stated that nurses experience high levels of verbal abuse by physicians (Joubert, Du Rand, vanWyk 2005). Moreover, tension among physicians and nurses is a significant factor of nursing stress at the work place (French et al 2000). The tense environment and the verbally abusive behaviors, lead to lower working status, lower power at work, poor working conditions (Celik et al 2007), and therefore there is a high risk for accidents and mistakes during care provision (Jenkins 1992).

In Greece, interprofessional collaboration is stated in the "Nursing and Medical Code of Deontology". More specifically, article 12 of Code of Nursing Deontology states that "A nurse should maintain most excellent relations with the colleague nurses, physicians and other professionals in the implementation of their duties, waiving each difference and taking into consideration the benefits of patients and the operation of services". Respectively section 4 in article 21 of the Code of Medical Deontology states that "The physician owes to respect, to maintain most excellent relations, and to collaborate with the nurses and other personnel in the implementation of his duties, waiving anyone by any chance difference, taking into consideration the interest of the patient and the order operation of benefit of services" (Code of Medical Deontology 2005, Code of Nursing Deontology 2001).

The phenomenon of interprofessional collaboration in Greek hospitals has been attracting the interest of nurse researchers since the 1990's (Sapountzi-Krepia, Andrioti, Ktenas 1997). Also, there is a great deal of evidence on the collaboration among physicians and nurses (Mallidou et al 1998, Deltsidou, Mallidou, Katostaras 2000, Pilli et al 2005). Nevertheless, most of the published studies have been carried out in Athens, the capital of Greece. They are conducted in Paediatric Hospitals and Maternity Hospitals (Mallidou et al 1998, Deltsidou, Mallidou, Katostaras 2000) and in Primary Health Care Centres (Pilli et al 2005). These reasons stimulated the researchers' interest to investigate the phenomenon further.

## AIMS

The aim of this study was: (a) to investigate the satisfaction of collaboration among nursing staff members and between nursing staff members and physicians, (b) to determine factors influencing the collaboration among nursing staff members, and (c) to determine factors influencing the collaboration between nursing staff members and physicians.

## METHODOLOGY

### *Sample and setting*

The study was descriptive. The sample consisted of nursing staff members working in hospitals in Thessaloniki (the second largest city of Greece) and other cities located in Northern Greece. The sample includes registered bachelor and associate degree nurses as well as assistant nurses. Inclusion criteria for participation in the study were: (a) willingness to participate, (b) having the ability to speak and read Greek, and (c) working in a clinical setting.

The eligible participants were approached by a member of the research team. The study aims were explained and the nurses were asked whether they were willing to participate. Then, the potential participants were given the opportunity to ask questions about the study and those who agreed to participate provided written informed consent. A total of 600 questionnaires were distributed and finally 342 completed questionnaires were returned (response rate of 65%).

### *Ethics*

The Nursing Department of the Technological Educational Institute of Thessaloniki, acting as Ethics Committee, approved the protocol of this study.

### *Instrument*

A questionnaire especially designed for this study was used in order to explore whether nursing staff members were satisfied with the interdisciplinary collaboration. The questionnaire was administered in Greek. The development of the questionnaire was based on the relevant literature. It was divided into two parts: (1) the first part included questions for eliciting information about demographic and employment characteristics of the participants, and (2) the second part included questions related to the collaboration among nurses, and between nurses and physicians.

The internal consistency of the questionnaire was checked by Cronbach's alpha and proved to be good (Cronbach's alpha=0.78 for collaboration among nurses and Cronbach's alpha=0.70 for collaboration between nurses and physicians).

### *Data analysis*

The statistical software package SPSS-13 was used to analyze the data. Descriptive statistics were used for the demographic characteristics. For data that were not normally distributed non-parametric tests were used (Mann-Whitney U test, Kruskal-Wallis test, and Spearman correlation coefficient). Mann Whitney U test was used to determine the differences between groups in the same measurement point. Correlations were calculated using the Spearman correlation coefficient and  $\alpha=0.05$ .

## RESULTS

The participants were 342 members of the nursing staff from hospitals. The sample was predominately female (n=295, 86.3%), with a mean age of 40.19±7.18 years. Most of them were married (n=239, 72.2%), graduates of Technological Educational Institutes (n=239, 69.9%) and were head-nurses (n=204, 61.8%). The majority (n=210, 65.7%) perform shift-work and have work experience of 11-20 years. Table 1 presents the demographic, educational, and professional characteristics of the sample.

Table 2 shows frequencies of the answers about the nurses' colleagues collaboration. The majority of the subjects (N=296, 87.8%) agree that the colleagues in hospital help one the other, and 76.9% (n=256) agree that there is team work and collaboration among the various levels of nursing staff. Almost half of the sample (n=168, 50.5%) disagrees that no one does not undermine the efforts of other.

Table 3 shows frequencies of the answers about the interdisciplinary collaboration. Many participants

**Table 1: Demographic characteristics of the sample**

| Variable                            | N   | (%)  |
|-------------------------------------|-----|------|
| <b>Gender</b>                       |     |      |
| Male                                | 47  | 13.7 |
| Female                              | 295 | 86.3 |
| <b>Nursing Education</b>            |     |      |
| University                          | 30  | 8.8  |
| Technological Educational Institute | 239 | 69.9 |
| MSc Graduate                        | 22  | 6.8  |
| Nursing Specialization              | 79  | 23.2 |
| Vocational Nursing School           | 73  | 21.3 |
| <b>Family Status</b>                |     |      |
| Single                              | 66  | 19.9 |
| Married                             | 239 | 72.2 |
| Widowed                             | 9   | 5.1  |
| Divorced                            | 17  | 5.1  |
| <b>Position in the hospital</b>     |     |      |
| Nursing Director                    | 4   | 1.2  |
| Nursing Manager                     | 9   | 2.7  |
| Head nurse                          | 40  | 12.1 |
| Nurse                               | 204 | 61.8 |
| Assistant nurse                     | 73  | 22.1 |
| <b>Shift work</b>                   |     |      |
| Yes                                 | 210 | 65.8 |
| No                                  | 109 | 34.2 |
| <b>Work experience</b>              |     |      |
| 1-10 years                          | 88  | 26.3 |
| 11-20 years                         | 175 | 52.2 |
| 21-30 years                         | 60  | 17.9 |
| >31 years                           | 12  | 3.6  |

**Table 2: Frequencies of the answers about nurse's colleague collaboration**

| Questions   | Disagree |      | Agree |      |
|---|----------|------|-------|------|
|   | N        | (%)  | N     | (%)  |
| The colleagues in the hospital where I work help one another when there is a problem                          | 296      | 87.8 | 41    | 12.2 |
| In the hospital where I work there is team work and collaboration between the various levels of nursing staff | 256      | 76.9 | 77    | 23.1 |
| No one in this department undermines the efforts of another, because the common goal is better patient care   | 165      | 49.5 | 168   | 50.5 |

**Table 3: Frequencies of the answers about disciplinary collaboration**

| Questions   | Disagree |      | Agree |      |
|---|----------|------|-------|------|
|   | N        | (%)  | N     | (%)  |
| Physicians in my ward collaborate very well with the nurses because they respect their opinion, their competence, and their knowledge | 169      | 50.6 | 165   | 49.4 |
| Physicians who I collaborated with have complete picture of the nursing activities  | 147      | 44.0 | 187   | 56.0 |
| Physicians in this hospital underestimate too much the nursing staff  | 142      | 42.3 | 194   | 57.7 |

(N=169, 50.6%) agree that physicians collaborate very well with the nursing staff. More than a half of the participants (n=187, 56%) disagree that physicians have complete picture of the activities of a nurse, and 194 subjects (57.7%) disagree that physicians underestimate too much the nursing staff.

Table 4 presents the factors influencing satisfaction of collaboration among the nursing staff. The statistically significant factors are: position in the hospital (P=0.021), basic nursing education (P=0.001), years at work (P=0.009), size of city of work (P=0.001), percep-

**Table 4: Factors that influenced the collaboration among nurses**

| Factors                                      | Spearman rho | P-value |
|--|--------------|---------|
| Position in the hospital                     | 0.127        | 0.021   |
| Basic nursing education                      | 0.179        | 0.001   |
| Years of work                                | 0.145        | 0.009   |
| Size of city of work                         | 0.177        | 0.001   |
| Perception about structure of the work place | 0.146        | 0.008   |
| Sufficiency of equipment                     | 0.124        | 0.024   |

Table 5: Factors that influenced the collaboration among nurses and physicians

| Factors  | Spearman rho | P-value |
|--|--------------|---------|
| Gender   | 0.123        | 0.026   |
| Age  | -0.159       | 0.004   |
| Place of work  | -0.199       | 0.000   |
| Bias about profession  | -0.200       | 0.001   |
| Discrepancy of picture of profession                                       | -0.193       | 0.000   |
| Evaluation of level of material and technical infrastructure of work place | 0.111        | 0.0045  |
| Syndicalism  | 0.0138       | 0.014   |

tion about structure of work place ( $P=0.008$ ), and sufficiency of equipment ( $P=0.024$ ).

Table 5 illustrates the factors influencing the satisfaction of collaboration among the nursing staff. The statistically significant factors are: gender ( $P=0.0026$ ), age ( $P=0.004$ ), place of work ( $P=0.000$ ), bias about the profession ( $P=0.0001$ ), discrepancy of picture of the profession ( $P=0.000$ ), evaluation of level of material and technical infrastructure of the working place ( $P=0.0045$ ), and trade-unionism ( $P=0.014$ ).

## DISCUSSION

Team work and interprofessional collaboration is crucial for patient care and team morale (Lockhard-Wood 2000). This study has contributed to the determination of relations among nurses and physicians as perceived by Greek hospital nurses living in Thessaloniki and cities in the area of Northern Greece.

The majority of the nursing staff were female and graduates of Technological Educational Institutes. This is an expected outcome because the majority of nursing staff in Greece are female. In contemporary Greece, nursing is taught in Institutions of Higher Education (in Technological Educational Institutes and University) (Sapountzi-Krepia 2004).

The majority of the nursing staff stated that they help each other and there is team work among nurses. This is explained by the fact that nursing in Greece is characterized as offering care to the fellowman (Sapountzi-Krepia et al 2007) and by the influence of the Christian virtues in the content of nursing practice (Lanara 1976). As a result, Greek nurses understand the team work collabora-

tion as essential in patient safety. Moreover, the nursing staff shortage is a tremendous problem in Greek hospitals (Sapountzi-Krepia et al 2006), so there is not much time in the workplace for tensions because of the heavy workload.

Moreover, these results are inconsistent with other studies which reported that nurses worry about colleagues' aggression (Farrell 1999), the relationship with colleagues is one of the factors that characterize nursing as stressful (Bogat, Ellefsen, Severinsson 2005), the problems with peers is one of the sources of stress (French et al 2000). This difference is attributed to the cultural differences, the sample size of other studies, and the use of a different scale (Bogat, Ellefsen, Severinsson 2005, French et al 2000).

About half of the nurses agreed that there is good collaboration between nurses and physicians, and the vast majority disagreed with the statement that physicians know well the nursing activities. These results are consistent with other studies and indicate that collaboration in Greek hospitals is not very effective (Reeves & Lewin 2004, Joubert, Du Rand, vanWyk 2005, Martin et al 2005, Pilli et al 2005, Rothstein & Hannum 2007). This is attributed to the fact that physicians view collaboration primarily as an activity involving work with other physicians, whereas other professionals see it as an interprofessional activity (Reeves & Lewin 2004). The results of another Greek study indicate that obstetricians consider the nursing staff as colleagues only in concrete items (Deltidou et al 2000).

Physicians and nurses share the common goal of maximizing the health and comfort of their patients (Pike, McHugh, Canney 1993). It is stated that the traditional physician-nurse relationship was not created on a collaborative platform. Traditional platforms of behavior have been that of physician dominance and nurse deference, classically referred to as "the doctor-nurse game" (Varizanni et al 2005, p.74).

Furthermore, nurses reported that physicians did not underestimate the nursing staff. In another Greek study (Deltidou, Mallidou, Katostaras 2000), physicians did not consider nurses equivalent members of the health care team, but they downgraded their role as a secondary and subordinate role. This difference is attributed to the different kind of sample. In that study the sample was comprised of pediatricians and obstetricians and a different questionnaire was used. Therefore, further research is needed in order to clarify this particular issue.

Nurses need to be recognized as equivalent members in the health care team. On the other hand, physicians

should know the nursing activities, in order to avoid any underestimation of nursing work. Team work is essential for the operation of hospital and for quality patient care (Dimitriadou 2007).

Members of the healthcare team need to experience the respect and comprehension of their colleagues. Communication and respect are the components of successful interdisciplinary collaboration. The benefits from effective collaboration of healthcare professionals concern not only patient health, but also the well-being of the staff (Dimitriadou 2007).

A step towards collaboration is the programme of inter-professional learning. Collaborative education of medical and nursing students, particularly in cultures with a hierarchical model of interprofessional relationship is needed to promote positive attitudes toward complementary roles of physicians and nurses (Hojat et al 2001). Students learn the importance of collaboration and report an appreciation of the contributions of each health related discipline (Barrere & Ellis 2002, Wheeler, Powelson, Kim 2007). Hojat et al (2001) stated that faculty preparation is necessary before implementing collaborative education.

Another important finding of the present study is that there are several factors influencing the collaboration among nurses and physicians. The factor "educational level" is consistent with other studies (Miller 2004, Mansourimoaied, Boman, Causley 2000) which found a relationship between level of education and collaboration. Other factors reported in a Greek study (Pilli et al 2005) as influencing interprofessional collaboration in Greek Primary Care Center were shift-work, conflicts among staff, low salary. Undoubtedly, there is need for further research on this issue.

#### Limitations of the study

The questionnaire was distributed in hospitals situated in Thessaloniki and cities around it, not all over Greece and the findings do not represent the views of nurses from all over the country.

#### CONCLUSIONS

The results of the present study have shown once again that collaboration between nurses and physicians has problems, while collaboration among nurses is satisfactory in Greece. It is well-known that the nursing work environment has a critical impact on patient safety (Lin & Liang 2007), so nurses and physicians should make an effort to collaborate well in order to provide quality services.

Furthermore, although the present study cannot draw reliable conclusions about interprofessional collaboration and collaboration among nurses all over Greece, we do believe that our findings may nonetheless be of interest to health authorities in order to examine interprofessional learning in medical and nursing faculties.

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