

## Original Article

# Collaboration between Doctors and Nurses in a Tertiary Health Facility in South West Nigeria: Implication for Effective Healthcare Delivery

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## Abstract

**Background:** Collaboration between doctors and nurses has been linked with efficient healthcare delivery. Little is known about the attitude of nurses and doctors towards collaborative care.

**Objectives:** The purpose of this study was to compare the attitudes of doctors and nurses toward Collaborative care in Federal Medical Centre, Owo, Ondo State.

**Methods:** A descriptive cross-sectional survey of 404 respondents; 256 nurses and 148 doctors in the employment of Federal Medical Centre, Owo was done. Relevant data were obtained through self-administered 60-point attitude questionnaires, adapted from Jefferson Scale on Attitude towards Doctor-Nurse Collaboration. Data collected were analyzed using SPSS (Version 17). Respondents who scored <50 were categorized as having poor attitude. Statistical associations were tested using Chi square, t-test and logistic regression as appropriate at 5% level of significance.

**Results:** The mean age of respondent was 35.2±7.5 years. Female respondents were 36.9%, 60% respondents had good attitudinal score. Among female respondents 78.0% had good attitude to collaboration compared to 30.2% male (p<0.001). In all, 84% nurses and 19.6% doctors have good attitude towards collaborative care. Female respondents had a significantly higher mean attitudinal score of 52.35±6.30 compared to male with a mean score of 45.60±7.18 (p<0.001). The odd of a nurse having a better attitude to doctor-nurse collaboration than doctors is 20.4 with a 95% confidence interval of 7.98-52.31 (p<0.001).

**Conclusion:** Nurses have more positive attitudes towards doctor-nurse collaboration than doctors. Inter-professional education that will increase the understanding of doctors and nurses and engender mutually respectful collaboration is advocated.

**Keywords:** Collaboration, Nurses, Doctors

## Introduction

Medicine and nursing are closely linked professions in hospital care. Patient outcomes are dependent on the doctor's

prowess in diagnosis and treatment, as well as nurses' continuous observation and their skills in passing across the right information to the right professional co-worker (Krodgatal, Hofoss, Hijordahl, 2004; Karima,

Sayed, Wafaa, 2011; Stein-Parabury, Liaschenko, 2007). Seamless collaboration between nurses and doctors are necessary for effective and efficient health care delivery. However, it is a known fact that this is often absent with negative impact on the quality of health care services (Ogbimi, Adebamowo, 2006; Kathleen et al, 2009). Developing collaborative practice among health care professionals is still a big challenge to political decision makers and organizational managers (Martin-Rodriguez et al, 2005; Wilson et al, 2005).

Collaborative Care refers to initiatives or activities that aim to strengthen links between different providers working together in a partnership characterized by common goals, a recognition of and respect for individual strengths and differences, equitable and effective decision-making, a focus on the patient and clear and regular communication (Dougherty, Larson, 2005; Ushiro, 2009). This involves doctors and other health care providers working together to provide care to a group of patients based on trust, respect and on understanding of each other's relevance and importance using their skills, knowledge and competences (Puntilo, McAdam, 2006; Bronstein, 2003).

The importance of effective doctor-nurse collaboration to patient care cannot be over-emphasized. As the complicated nature of health services is growing, the medical knowledge is expanding and the specialization is increasing, the need for bringing together separate but interlinked professional skills has become necessary. Single providers or disciplines are no longer able to meet all the health care needs of an individual [Taylor, 2009; Panagoita, 2010, Lindeke, Sieckert, 2011). Previous researchers have documented that collaborative practice between doctors and nurses brings about positive effects on the cost of patient care (Martin, 2010; Chaboyer, Patterson, 2001). Positive nurse-doctor collaboration has been shown to lead to better patient outcome and enhanced providers' job satisfaction (Lindeke, Sieckert, 2005; Jones, Fitzpatrick, 2009).

Consistent challenges to collaborative practice highlighted by McCallin et al are communication, effective team working,

conflict resolution skills including understanding of group norms, understanding of other health professionals' roles, the ability to tolerate differences, a willingness to collaborate, and the ability to contribute to shared care plans and goal setting. (Panagiota, 2010; McCallin, McCallin, 2009).

The aftermath of lack of effective collaboration between doctors and nurses are quite grave; they include negative events such as medication errors, failure to rescue and mortality of a patient. Furthermore, this can also lead to poor coordination of patient care, less patient satisfaction, poor perception and utilization of health care services (Lorelei et al, 2010; Martin et al, 2010). Most studies conducted on doctors and nurses collaboration have been carried out in developed countries with few in the developing world. This study aimed to assess the attitudes of nurses and doctors in a tertiary health facility located in a semi-urban area of south-western Nigeria towards Doctor-Nurse collaboration at work.

## Materials and Methods

This is a descriptive cross-sectional survey carried out in Federal Medical Center, Owo located in Owo Local Government Area of Ondo state, Nigeria. The hospital provides healthcare services at the primary, secondary and tertiary levels to the people within its catchment areas which are Ondo, Kogi, Edo, Ekiti and Osun States and its surrounding states. It also receives patients from almost all the states of the Federation because it is situated a stone's throw from the highway that links Abuja to Lagos. It is also an approved training center by both the West African Postgraduate College and the National Postgraduate College to train Resident Doctors in some specialist area of Medicine.

The staff strength of the hospital was about 1200 when the study was conducted. Doctors and nurses were 213 and 300 respectively when the study was conducted. The study population included 429 nurses and doctors who were available at the time of data collection. Staff members excluded were those on leave (annual, study, leave of absence, etc) during the period. However only 404 respondents gave consent and

completely filled the questionnaire, yielding a response rate of 94.2%.

The data for the study were collected by using the adapted version of ‘‘Jefferson Scale’’ of Attitude towards Doctor-Nurse collaboration [Hojat et al, 2003]. Jefferson Scale was originally developed by researchers at Jefferson Medical College, Philadelphia, Pennsylvania. It consists of two parts: socio-demographic characteristics of physicians and nurses which include gender, age and working experience, and the second part had 15 statements about collaboration, which were grouped under four subscales, i.e., Shared Education and Teamwork (7 statements), Caring versus Curing (3 Statements), Nurses’ Autonomy (3 statements) and Physician’s Dominance (2 Statements). Scoring- The response was on a 4-point, Likert-type scale from strongly agree (4) to strongly disagree (1).

The 2 items identified as ‘‘Physician’s dominance’’ questions are reversed scores, with a higher factor score given to a lower numerical answer and vice versa. The higher the total scores on the scale, the more positive the respondent’s attitude toward Physician- nurse collaboration; those who scored below 50 were categorized as having poor attitude while those who scored 50 and above were grouped as having good attitude . The questionnaires were self-administered.

Data was analyzed using the Statistical Package for Social Sciences (SPSS) version 17.

Descriptive statistics were done. Independent sample t-test was used to test the significant difference of the attitudinal scores between male and female respondents. Chi-square was used to test the association between socio-demographic factors with good and poor categories of the attitudinal scores. Logistic Regression was used to determine the predictors of good attitude towards collaborative care. Statistical significance was considered at  $p < 0.05$ .

### **Ethical Consideration**

Approval for the study was sought and obtained from the Federal Medical Centre, Owo Health Research Ethics Committee. Verbal informed consent was obtained from

the participants. They were also guaranteed the confidentiality of information given.

### **Results**

The socio-demographic characteristics of the respondents are shown in Table 1. A total of four hundred and four respondents (doctors and nurses) in the employment of Federal Medical Center, Owo were interviewed.

The mean age irrespective of profession was  $35.2 \pm 7.5$ . The mean age of doctors was  $34.6 \pm 6$  years while that of the nurses was  $35.5 \pm 8$ .

The highest proportion of respondents, 182 (45.0%), were those in 31-40 years of age while the lowest, 92(22.8%) were those aged 41 and above.

Female respondents were 255 (36.9%). Male doctors were 118(29.2%) of the respondents while 30(7.4%) were female doctors; male nurses were 31(7.7%) while female nurses were 225(55.7%). Among the respondents 256 (63.4%) were nurses while 148(36.6%) were doctors.

Concerning working experience 166(41.1%) had maximum of five years. The median for the respondents’ working experience is 18 years while the range is 1-35 years.

Figure I shows the distribution of the respondents by their professional cadres. The Nursing and Senior Nursing Officers accounted for 173(42.8%) of the respondents while the Principal, Assistant Chief and Chief Nursing Officers constituted about 84(20.8%) of the respondents. The House Officers were 30 (7.5%) of the respondents. In all 243(60%) respondents had good attitudinal score towards doctor-nurse collaboration.

Table II shows the association between socio-demographic factors and attitude to collaboration. Looking at profession and attitudinal score, among the doctors, 119(80.4%) had poor attitude while 215(84.0%) of the nurses had good attitude ( $p < 0.001$ ). Considering age and attitudinal score, 89(68.5%) of those  $\leq 30$  years had good attitude while only 41(31.5%) of this age category had poor attitude ( $p = 0.005$ ).

Among female respondents 199(78.0%) had good attitude to collaboration compared to

45(30.2%) male ( $p < 0.001$ ). Female nurses who had good attitude were 192(85.3%), followed by male nurses 23(74.2%) and least among male doctors 22(18.6%), ( $p < 0.001$ ).

Table III shows the mean attitude score by profession and gender. Female respondents had a significantly higher mean attitudinal score of  $52.35 \pm 6.30$  compared to male with a mean score of  $45.60 \pm 7.18$  ( $p < 0.001$ ).

Table IV shows the predictors of good attitude among the respondents towards collaborative care. The odd of a nurse having a better attitude to doctor-nurse collaboration than doctors is 20.4 with a 95% confidence interval of 7.98-52.31 ( $p < 0.001$ ). Female respondents were two times more likely to have better attitude towards collaboration than male counterpart though not statistically significant  $p = 0.154$ .

**Table 1: Socio-Demographic Characteristics of Respondents.**

Characteristics (N = 404)	Frequency	%
<b>Age group in years</b>		
≤ 30	130	32.2
31-40	182	45.0
≥ 41	92	22.8
<b>Sex</b>		
Male	149	36.9
Female	255	63.1
<b>Marital status</b>		
Married	309	76.5
Single	95	23.5
<b>Gender and Profession</b>		
Male Doctor	118	29.2
Female Doctor	30	7.4
Male Nurses	31	7.7
Female Nurses	225	55.7
<b>Profession</b>		
Doctors	148	36.6
Nurses	256	63.4
<b>Working experience in years</b>		
≤ 5	166	41.1
6-10	99	24.5
≥ 11	139	34.4

**Table 2: Association between Socio-demographic Factors and Attitude towards Collaboration**

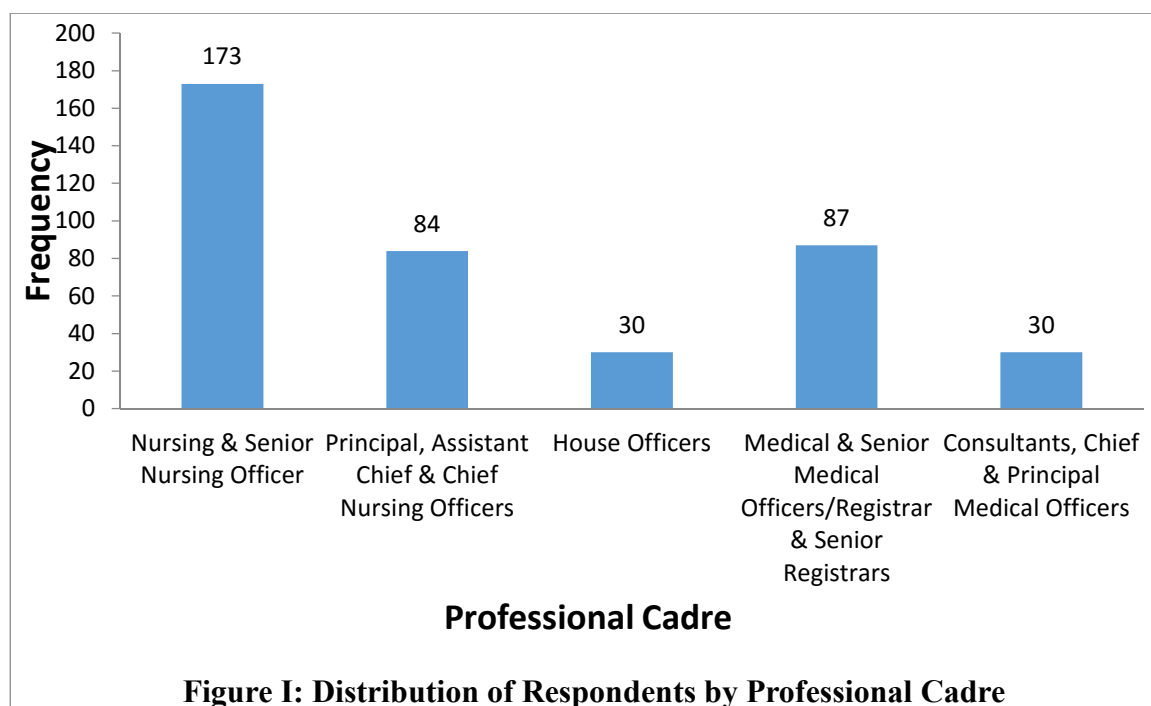
Characteristics	Attitude Score		Chi-square	p- value
	Poor	Good		
<b>Age in years</b>				
≤30	41(31.5%)	89(68.5%)	10.70	<b>0.005</b>
31-40	88(48.4%)	94(51.6%)		
≥41	31(33.7%)	61(66.3%)		
<b>Gender</b>				
Male	104(69.8%)	45(30.2%)	89.98	<b>&lt;0.001</b>
Female	56(22.0%)	199(78.0%)		
<b>Profession</b>				
Doctor	119(80.4%)	29(19.6%)	162.56	<b>&lt;0.001</b>
Nurse	41(16.0%)	215(84.0%)		
<b>Work Experience in years</b>				
≤5	69(41.6%)	97(58.4%)	0.55	0.76
6-10	39(39.4%)	60(60.6%)		
≥11	52(37.4%)	87(62.6%)		
<b>Gender and Profession</b>				
Male Doctors	96(81.4%)	22(18.6%)	164.19	<b>&lt;0.001</b>
Female Doctors	23(76.7%)	7(23.3%)		
Male nurses	8(25.8%)	23(74.2%)		
Female Nurses	33(14.7%)	192(85.3%)		

**Table 3: Mean Attitude Score by Profession and Gender**

Profession	Gender		Statistic	
	Male	Female	t	p
<b>Doctors</b>	44.04±5.71 N=118	42.30±6.71 N=30	0.61	0.54
<b>Nurses</b>	51.55±9.01 N=31	53.56±5.17 N=255	-1.82	0.07
<b>Overall (Doctors and Nurses)</b>	45.60±7.18 N=149	52.35±6.30 N=225	-9.85	<0.01

**Table 4: Predictors of Good Attitudes towards Collaborative Care**

Characteristics	Odds ratio	95% CI of OR	p-value
<b>Age in years</b>			
≤30	1.37	0.66-2.85	0.398
31-40	0.96	0.49-1.87	0.896
≥41	1		
<b>Gender</b>			
Male	1		
Female	1.92	0.79-4.68	0.154
<b>Profession</b>			
Doctors	1		
Nurses	20.4	7.99-52.31	<0.001
<b>Gender and Profession</b>			
Male Doctors	1.63	0.44-6.09	0.469
Female Nurses	1		



## Discussion

This descriptive survey was carried out to assess the attitude of doctors and nurses working in a tertiary health facility in South-West, Nigeria towards doctor-nurse collaboration. Many of the studies on the issue of doctor-nurse collaboration have been carried out in the developed world.

Nurses and doctors belong to two different groups of professionals that work intimately together in the hospital environment. Their common mission is to ensure that the patients get the best of healthcare. They both need to work together as a team for this to be achieved. Though collaboration is very important to their success in bringing relief to the patients, effective collaboration is hampered by strife and acrimony which, often than not, have existed between these professionals for ages (Ogbimi, Adebamowo, 2006; Panagiota, 2010). This has brought a lot of adverse effects on patient management (Kathleen et al, 2009; Martin et al, 2010).

This study has shown that nurses have a better attitude than doctors toward doctor-nurse collaboration. Nurses were about twenty times more inclined to doctor-nurse

collaboration than doctors. Nurses were better with regards to collaboration because most of the nurses in this study were female. Females also had better attitude towards collaboration than males. The traditional view of female subordination to male in African setting could be responsible. In this part of the world we have more of female nurses than male nurses and more of male doctors than female doctors; the more male dominated doctor group gives instructions which are obeyed by the female dominated nurse group. This is consistent with findings in a study by Pevida in 2009. It has also been opined that doctors tend to be less cooperative working with other health professionals because of a more powerful position which they occupy in the health team as a result of their educational qualification (Hojat et al, 2003; Davies, 2007).

Other studies also demonstrated that nurses had a more positive attitude toward collaboration than doctors (Karima, Sayed, Wafaa, 2011; Taylo, 2009; Hanson et al, 2010; Sterci, 2007). However, in a study conducted in a Neonatal Intensive Care Unit

of a Paediatric Hospital in Australia by Copnell et al in 2004, doctors reported a higher degree of collaboration than nurses.

In this study, there was no significant difference between the mean attitudinal scores for male and female doctors and male and female nurses. Similarities exist in the training of doctors regardless of gender and likewise nurse. The absence of relationship between profession and gender combined and attitude scores agrees with the findings of Hansson et al in 2010.

Length of working experience does not affect the attitude of respondents toward nurse-doctor collaboration. This is in disagreement with findings in previous studies in which years of working experience was associated with more positive attitudes towards collaboration in doctors and less positive in nurses (Hojat et al, 2003; Taylor, 2009). In this study, younger respondents had better attitude towards nurse-doctor collaboration. The reason for this could be that the younger respondents are still young in the system and tend to be submissive to older members of the team. This is not in agreement with Hansson et al in a study where they found that the younger medical professionals did not have a more positive attitude towards nurse-doctor collaboration than their older colleagues (Hanson et al, 2004).

### Conclusion and Recommendation

This study has shown that nurses are better and more ready to collaborate than doctors. Inter-professional education that will increase the understanding of doctors and nurses and engender mutually respectful collaboration is necessary. Both professions must see collaboration as a means of providing enhanced service delivery and improve patient outcome. Such collaboration however must be carried out in an inclusive manner that respect the skills, competencies and knowledge that each member brings to the team.

### Limitation and need for further studies

While the study focused on collaboration between nurses and doctors with regard to patients' care, it did not take into cognizance the effect of collaboration among the many other professionals involved in patients' care in the hospital. Further studies are needed

among doctors, nurses and other health care services providers.

### References

- Bronstein LR. (2003). A Model for Interdisciplinary Collaboration. National Association of Social Workers. ISSN: 0037-8046. Magazine/ Journal Academic English.
- Chaboyer WP, Patterson E. (2001). Australia Hospital Generalist and Critical Care Nurses' Perception of Doctor-Nurse Collaboration. *Nursing and Health Sciences*. Vol. 3, issue 2, pgs. 73-79.
- Copnell B, Johnson L, Harrison D, Wilson A, Robson A, Mulcavy C, Ramudu L, McDonnell G, Best C. (2004). Doctors' And Nurses' Perceptions of Interdisciplinary Collaboration in the NICU, and the Impact of a Neonatal Nurse Practitioner Model of Practice. *J Chn Nurs.*; 13(1): 105-113.
- Davies C. (2007). Getting Health Professionals to Work Together. There is more to Collaboration than Simply Working Side by Side. *BMJ*; 320: 1021-2.
- Dougherty MB, Larson E. (2005). A Review of Instruments Measuring Nurse-physician Collaboration. *Journal of Nursing Administration*, vol. 35, no.5, pp 244-2537
- Hansson A, Arvemo T, Marklund B, Gedda B, Mattson B. (2009). Working Together Primary Care Doctors' and Nurse Attitudes to Collaboration. *Scandinavian Journal of Public Health*; 38; 78-85. Epub 2009 Sep.17 <http://s.jp.sagepub.com>
- Hojat M, Gonnellan JS, Nasca TJ, Fields SK, Cichetti A. (2003). Comparisons of American, Israel, Italian and Mexican Physicians and Nurses on The Total and Factor Scores of The Jefferson scale of Attitude toward Physician-Nurse Collaborative Relationships. *Jefferson Digital Commons*: <http://jdc.jefferson.edu/crmehc/3>
- Iliadi P. (2010). Accountability and Collaborative Care: How inter professional Education Promotes Them. *Health Science Journal*. Vol.4, issue 3; pg. 129-135.
- Jones TS, Fitzpatrick JJ. (2009). CRNA-Physician collaboration In Anaesthesia. *AANA Journal*. Vol.77, No.6. [www.aana.com/aanajournal.aspx](http://www.aana.com/aanajournal.aspx)
- Karima A, Sayed EL, Wafaa FS. (2011). Nurse-Physician Collaboration; A Comparative Study of The Attitudes of Nurses and Physicians at Mansoura University Hospital. *Life science Journal*; 8(2). <http://www.lifesciencesite.com>
- Kathleen A, McGrail KA, Morse DS, Gessner T, Gardner K. (2009). "What Is Found There": Qualitative Analysis of Physician-Nurse



- Collaboration Stories. *Journal of General Internal Medicine*; 24(2): 198-204.
- Krogstad U, Hofoss D, Hijortdahl P. (2004). Doctor and Nurse Perception of Inter-professional Cooperation in Hospitals. *International Journal for Quality in Health Care* vol. 16, issue 6 pg. 491-494.
- Lindeke LL, Sieckert AM. (2011). Nurse-Physician Workplace Collaboration. *Online Journal of Issues in Nursing*. Pgs1-9.
- Lindeke LL, Sieckert AM. (2005). Nurse-Physician Workplace Collaboration. *The Online Journal of Issues in Nursing*. Vol.10, No.1. DOI: 10.3912/OJIN.Vol.10 No 01Man.04
- Lorelei L, lingard L, Espin S, Evans C, Hawry L. (2004). The Rules of the Game: Interprofessional Collaboration on the Intensive Care Unit Team. *Crit. Care.*; 8(6): R 403-R408.
- Martin JS, Umenhofer W, Manser T, Spirig R. (2010). Inter professional Collaboration among Nurses and physicians: Making a Difference in Patient Outcome. *Swiss Medical Weekly*. *The European Journal of Medical Services.*; 140; w13062.
- Martin JS. (2010). Interprofessional Collaboration among Nurses and Physicians: Making a Difference in Patient Outcome. *Swiss Medical Weekly*. Online Publication, 4th May, 2010. [www.smw.ch](http://www.smw.ch)
- Martin-Rodriquez L, Marie-Dominique B, D'amour D, Ferrada-Videla M. (2005). The Determinants of Successful Collaboration: A Review of Theoretical and Empirical Studies. *Journal of Inter-Professional Care*, supplement 1: 132-147.
- McCallin A., McCallin M. (2009). Factors Influencing Team Working and Strategies to Facilitate Successful Collaborative Teamwork. *New Zealand Journals of Physiotherapy*, vol. 37(2)
- Ogbimi R, Adebamowo CA. (2006). Questionnaire Survey of Working Relationships between Nurses and Doctors in Teaching Hospitals in Southern Nigeria. *BioMed central Ltd.BMC Nursing*, 5:2 <http://www.biomedcentral.com/1472-6955/5/2>.
- Pevida A. (2009). Measurement of Attitudes towards Nurse/Physician Collaboration in the Health Care Corporation of St. John's. Thesis (M.Sc.) - Memorial University of Newfoundland. Medicine.139 leaves. PDF file: [http://collections.mun.ca/PDFs/thesis/Pevida\\_Ary.pdf](http://collections.mun.ca/PDFs/thesis/Pevida_Ary.pdf)
- Puntilo KA, McAdam JL. (2006). Communication Between Physicians And As A Target For Improving End-Of-Life Care In The Intensive Care Unit: Challenges And Opportunities For Moving Forward. *Critical Care Medicine*. Vol.34, No.11.
- Stein-Parabury J, Liaschenko J. (2007). Understanding Collaboration between Nurses and Physicians as Knowledge at Work. *American Journal of Critical Care*; 16: 470-477.
- Sterci LS. (2007). Perceptions That Affect Physician-Nurse Collaboration in the Peri-Operative Setting. *AORN Journal* 86. Pgs 45-57. AORN Inc. 2007.
- Taylor CL. (2009). Attitude toward Physician-Nurse Collaboration in Anaesthesia. *AANA Journal* .Vol.77, No.5 [www.aana.com/aanajournal.aspx](http://www.aana.com/aanajournal.aspx)
- Ushiro R. (2009). Nurse-Physician Collaboration Scale Development and Psychometric Testing. *Journal of advanced Nursing*; 65(7): 1497-1508. Doi:10.1111/j.1365-2648.2009.05011
- Wilson K, Coulon L, Hillege S, Swann W. (2005). Nurse Practitioners' Experiences of Working Collaboratively With General Practitioners and Allied Health Professionals in New South Wales, Australia. *Australian Journal of Advanced Nursing*. Vol.23, num. 2