



Preferred information sources for clinical practice by nurses¹

Figen Çalışkan²
Hülya Kaya³

Abstract

The aim of this study was to determine the knowledge sources that nurses working in inpatient treatment institutions use in their practices. It is inevitable for nurses to base their nursing practices on evidence from knowledge sources in order to improve the quality of nursing care. In this context, it is necessary for the nurses to gain skill in using knowledge sources effectively during their basic education and to further develop this skill after graduation in order provide qualified and safe care. This study utilised descriptive design. The study sample consisted of 296 nurses who work in general training and research hospitals that serve in all regions of Istanbul and are subsidiary to the Ministry of Health. A demographic questionnaire and a Knowledge Source Scale for nurses were used for data collection. Data were analysed with Cruncher Statistical System (NCSS) 2007&2008 Statistical Software (Utah USA) package programme. The following figures are from the demographic questionnaires: mean age of study participants, 31.69 ± 6.03 years; females, 91.6%; married, 65.2%; bachelor's degree, 39.9%; worked in surgical units, 56.8%; and worked as clinic nurse, 74.7%. One of the main knowledge sources used in nursing practice is the knowledge acquired in nursing school. Basic nursing education plays an ongoing role as a source of practice knowledge. These knowledge sources should be renewed and updated with continuing education courses or short-term training programs. This research can be used to guide development of continuing education programs and underscores the sources of knowledge about general nursing practice. This study can serve as an impetus to further study the use and highlight education needs of practicing nurses.

Keywords: Knowledge; Knowledge Sources; Nurse; Nursing; Nursing Practices.

Introduction

It can be difficult to stay up-to-date in this age of instant information; this holds true for those in positions of power and those working at everyday jobs as information is seen as the main source of real capital development and thus wealth. The information age allows services to be more efficient and effective and affects us in our individual and professional lives (Kaya, 2002: 54; Emiroglu et al., 2005: 64; Odabaş, 2005: 1; Pektekin, 2010: 65).

Recent rapid development and changes in the information age highlight inadequacies in knowledge and skill development in basic professional education, and require efficient use of nursing knowledge sources to realise their professional goals and maintain their professional development. Relevant resources emphasise a requisite skill in the use of scientific resources to enable quality nursing practice (Odabaş, 2005: 2; Karagözoğlu, 2006: 67; Yurtsever and Altıok,

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² M.Sc., Bakirkoy Dr Sadi Konuk Education and Research Hospital, Istanbul, figentug@yahoo.com

³ Assoc. Prof. PhD, Istanbul University Florence Nightingale Nursing Faculty, Nursing Education Department, Istanbul, hulyakay@istanbul.edu.tr

2006: 159; Kelleci et al., 2008: 4; Görüş et al., 2014: 137). With the rising cost of health care, there is an accompanying increase in the demand for qualified and safe care practices and for enhanced information needs of patients, it is evermore important to use accurate and up-to-date scientific knowledge in nursing practice (Yurtsever and Altıok, 2006: 159; Kelleci et al., 2008: 6; Özsoy and Ardahan, 2008: 603; Yava et al., 2008: 161; Kaya, 2009: 4 Pektekin, 2010: 65; Boz-Yüksekdağ, 2015: 104). Today, the continuously used knowledge sources are ubiquitous and still rapidly increasing. It is important, however, to have the knowledge to differentiate true and reliable from inaccurate or false information knowledge sources. Nurses must learn to evaluate knowledge sources for accuracy, reliability, impartiality, timing and scope (Estabrooks, 1998: 20; Kurbanoglu, 2002: 12; Başaran, 2005: 166-168; Karagözoğlu, 2005: 7; Özsoy and Ardahan, 2008: 602). Nursing practice is based on evidence that utilises knowledge sources in order to improve nursing care quality and to keep pace with the rapid developments in the health care field (Kaya, 2002: 55; Kaya, 2003: 74; Jarvis, 2005: 657; Çelen et al., 2007: 25; Öztürk and Savaşkan, 2008: 42). In this context, it is necessary for the nurses develop skill in using knowledge sources effectively as part of their basic education and to further continue to evaluate and develop this skill after graduation in order to maintain the qualified and safe care standards (Odabaş, 2005: 4; Yurtsever and Altıok, 2006: 162; Özsoy and Ardahan, 2008: 603; Öztürk and Savaşkan, 2008: 42). Nurses should use knowledge sources to follow scientific and technological developments to help them make correct decisions in professional practice and to problem-solve as needed (Estabrooks, 1998: 19; Kaya, 2002: 55; Ay, 2009: 131-132). To date, despite its importance, there is scant literature about utilization of knowledge sources in nursing practice (Estabrooks, 1998: 15; Beydağ and Arslan, 2008: 78; Özsoy and Ardahan, 2008: 603).

Methods

Aims of study

The aim of the study was to determine the knowledge sources that the nurses working in inpatient treatment institutions use in their practices.

We wished to answer the following questions with this study:

- What are the knowledge sources that nurses working in inpatient treatment institutions use in their practices?
- Are there any differences between demographic variables and knowledge sources used by nurses in their practices?

Design and sample

This descriptive study sample was composed of 309 nurses at general training and research hospitals that serve in all regions of Istanbul, Turkey and are subsidiary to Ministry of Health. The number of nurses to be studied was calculated using stratified sampling method, while the number of study participants at each institution was chosen using a random sampling method. As 13 of the questionnaires were not completely filled out, 296 questionnaires were used for data analysis (Karataş, 2002: 127-138).

Data collection

“The Knowledge Sources Scale Used by Nurses in Their Practices” and a demographic information questionnaire form were used as tools for data collection. The information form (Kuuppelomaki and Tuomi, 2003: 591; Egerod and Hansen, 2005: 467; Yava et al., 2008: 162; Kelleci et al., 2008: 8; Kavaklı et al., 2009: 169) was developed by the researchers and consisted of 16 questions for determination of sociodemographic features of study participants. “The Knowledge Sources Scale Used by Nurses in Their Practices” was developed by Estabrooks

(1998: 24) and the Turkish version underwent validity and reliability testing by Özsoy and Ardahan (2008: 604). It's purpose is to determine the knowledge sources that the nurses use in their practices. There are 22 items in the scale, 5 of which are likert-type. While evaluating the frequency of use of knowledge sources in nursing practices "1 point" is given for "never", "5 points" for "always". The minimum score for the scale is 22 and the maximum is 110.

The Total Cronbach alpha value for The Scale of Knowledge Sources Used by Nurses in Their Practices was 0.73 when evaluated in 2008 by Özsoy and Ardahan whereas it was stated as 0.88 in the present study. The alpha values of items in the scale ranged between 0.87 and 0.89 and did not decrease reliability. Based on these results, the scale was designated as reliable for use in research (Erefe, 2002: 171-178).

Ethical considerations

The necessary permissions were obtained from the Provincial Health Directorate before study initiation. Data were collected by arranging a mutually agreeable time with the head nurses of the participating hospitals, and face to face data collection was used. Study participation was voluntary. The nurses gave written informed consent to participate in the study. No time limit were for completion of the study instruments.

Data analysis

Cruncher Statistical System NCSS 2007&PASS 2008, Version XX for Windows (Utah USA) was used in the statistical evaluation of the data for this study. The following analytical methodologies were used herein: descriptive statistical methods (average, standard deviation); one way ANOVA test for comparison of intergroup quantitative parameters with normal distribution; Tukey HSD test for detection of the group differences' and the student t test to compare two groups of parameters with normal distribution. Significance was set at: $p < 0.05$ (Erefe, 2002; Altunışık et al., 2004; Akgül, 2005).

Results

The mean age of study participants was 31.69 ± 6.03 , most (91.6%) were women and 65.2% were married. Most (39.9%) have a bachelor's degree 26.7% have associate degrees. The length of work experience varied ranged from 1-32 years with a mean is 10.23 ± 7.01 years. Most (56.8%) work in surgical units and 74.7% worked as clinical nurses (Table 1).

Table 1. Characteristics of the nurses (n= 296)

		n	%
Age	20-26	54	18.2
	27-33	154	52
	34-40	60	20.3
	> 40	28	9.5
Sex	Woman	271	91.6
	Man	25	8.4
Marital status	Single	103	34.8
	Married	193	65.2
Educational status	High School	67	22.6
	Associate Degree	79	26.7
	Bachelor's Degree	118	39.9
	Post Graduate	32	10.8
Length of nursing experience	1-5	87	29.4
	6-10	93	31.4

	11-15	51	17.2
	16-20	36	12.2
	> 20	29	9.8
Department that nurses work on Working Unit	Surgery	168	56.8
	Interior	87	29.4
	Managerial	41	13.9
Duty	Director nurse	75	25.3
	Clinical Nurse	221	74.7

Opinions about knowledge sources

When ask their opinions about knowledge sources they use in nursing practice, 97.3% stated that professional practice must be based on scientific information and 79.4% said they knew how to get the necessary information in professional practices. 50.7% stated that they had been attending professional scientific meetings (congresses, symposia etc.). We also found that 44.7% attended professional scientific meetings once or twice a year. In responses, we found that 87.2% of study participants said they didn't follow professional scientific periodicals. While 98.3% said they used computers and/or the internet as knowledge sources for professional information, 74% said they didn't utilise libraries as a source of professional knowledge. When asked about membership in professional organisations, 67.9% responded that they weren't a member of such an organization (Table 2).

Table 2. The opinions of nurses of knowledge sources (n= 296)

		n	%
Basing the professional practice on scientific information	Must be based on	288	97.3
	Mustn't be based on	8	2.7
Knowing how to access information needed for professional practice	I know	235	79.4
	I need support	55	18.6
	I don't know	6	2.0
Attending the professional scientific meetings	I attend	150	50.7
	I don't attend	146	49.3
The frequency of attending the professional scientific meetings	Less than 1 in 2 years	33	22.0
	Once in 2 years	12	8.0
	1 or 2 in a year	67	44.7
	More than 2 in a year	38	25.3
Regular reading of professional/scientific periodicals	No	258	87.2
	Yes	38	12.8
Utilizing computer/internet to obtain professional information	Yes	291	98.3
	No	5	1.7
Utilizing library to obtain professional information	No	219	74.0
	Yes	77	26.0
Membership in professional organisation(s)	No	201	67.9
	Yes	95	32.1

Knowledge sources used by nurses in their practices

The main knowledge source used by nurses in their practice is information learned in nursing school (3.81 ± 0.86), in-service training programmes (3.67 ± 0.86), information from textbooks (3.53 ± 0.89) and finally a sense of what is right for each patient (1.75 ± 0.98) follow in turn (Table 3).

Table 3. The item point average of the knowledge sources used by nurses in their practices (n= 296)

The knowledge that I use in my practice is based on;	Item Point Average	Standard Deviation (SD)
Information I learned in nursing school...	3.81	0.86
In-service training programmes...	3.67	0.86
Information in textbooks...	3.53	0.89
Courses specific only to my department...	3.43	1.09
Information I obtained by continuing in-service/conferences..	3.40	1.00
The ways that I have always done it...	3.32	0.94
What has worked for me for years ...	3.32	0.89
My personal experience of nursing patients/clients...	3.26	0.97
Information that I learn about each patient / client as an individual...	3.23	0.92
Information I obtained from nursing congress and symposiums...	2.94	1.28
The information my fellow nurses' share...	2.92	0.88
New therapies and medications that I learned about after physicians order them for patients...	2.88	1.04
Nursing departments of medical congress and symposiums...	2.79	1.25
Articles published in nursing research journals...	2.77	1.14
Information I get from policy and procedure manuals...	2.75	1.17
Articles published in medical journals...	2.73	1.14
Articles published in nursing journals...	2.72	1.11
Activities of nursing foundations in Specific Branches...	2.59	1.22
What physicians discuss with me...	2.51	1.05
Publications and activities of Turkish Association of Nurses	2.37	1.16
Information I get from media (for example; popular magazines, television, the internet etc.)...	2.00	1.03
My intuitions about what seems to be "right" for the patient / client...	1.75	0.98

There is a statistically significant difference for average scores of The Scales of Knowledge Sources That Nurses Used in Their Practices for age groups ($p=0.716$), sex ($p=0.807$), marital status ($p=0.662$), length of work experience ($p=0.171$) when comparing knowledge sources that nurses use in their practices. There is also a statistically significant difference between the scale point averages when analysed according to education level ($p=0.001$). The average scores of high school graduate nurses were significantly lower than those with associate degrees and bachelor's degrees ($p=0.017$; $p=0.002$). Significant differences were observed for average scores when analysed to the type of work department, and job description ($p=0.001$). The average score for nurses working in managerial capacities is higher than those working in surgery and internal medicine units; lastly the average score of nurse directors is higher than of clinical nurses ($p=0.001$).

There were also significant differences between average scores for those who know how to get the information needed for practice, who need support to obtain such information and those who don't know ($p=0.001$). The average score for those who know how to access

knowledge sources was higher than for those who need support ($p=0.001$, $p=0.044$). No meaningful differences were found when comparing answers to the question of “Must professional practices be based on scientific information?” ($p=0.760$).

The average score for those who attended professional meetings is significantly higher than those who did not attend professional meetings ($p=0.001$). Average score for nurses attending more than 2 professional per year was significantly higher than average scores for those who attended less than 1 meeting per year ($p=0.014$). Similarly, the average score for nurses who follow a professional periodical to obtain professional information is meaninfully higher than for those who don't follow professional journals ($p=0.001$). On the other hand, there was not a statistically significant difference between average scores of nurses regarding utilisation of computer / internet to access professional information ($p=0.599$). Average scores for those who use the library to obtain professional information was significantly higher than the for those who didn't use libraries. ($p=0.012$). No meaningful differences were found in terms of membership in professional organizations ($p=0.073$).

Discussion

The ages of the nurses participating in this study ranged from 20 to 54 (average, 31.69 ± 6.03). Most participants are women (91.6%) and married (65.2%). Most had a bachelor's degree (39.9%) and 26.7% had associate degree (26.7%). Most of the nurses work in surgical units (56.8%) and as clinical nurses (74.7%) (Table 1).

The length of work experience ranged from 1 to 32 years (average, 10.23 ± 7.01 years) (Table 1). This is consistent with studies by Özsoy and Ardahan's (2008: 605). According to Benner's “From Novice to Expert Theory” nurses who participated in this study were considered to be expert because they were all experienced (Benner et al., 1992).

Most of the nurses (97.3%) think that professional practice must be based on scientific information (Table 2), demonstratig that nurses are aware of the fact that their practice must be based on scientific information and knowledge sources. Although most state (79.4%) that they know how to get the information needed for their professional practices, 18.6% state that they need support to gather such information and 2% don't know how to access needed information. These results suggest a need for education about knowledge sources (Table 2).

Half of the nurses said they have been to professional scientific meetings. Most who attend meetings (44.7%) state that they attend such meetings once or twice a year (Table 2). Attendance of nurses at professional scientific meetings (congresses, symposiums etc.) was low in Yava et al., Göriş et al. and about half attended meetings as reported by Karamanoğlu et al. (Yava et al., 2007: 75; Yava et al., 2008: 162; Karamanoğlu et al., 2009: 13; Göriş et al., 2014: 140). These results suggest that the nurses tend to use congresses and symposia as knowledge sources and are willing to attend such meetings.

Most of the nurses (87.2%) stated that they don't follow any professional scientific periodicals (Table 2). This is similar to the results of Gözüm et al. (2000: 21), Bahar et al. (2015: 235) and Yava et al. (2007: 76; 2008: 163). Of note, the rate of following a professional periodical is low for Turkey as compared to other countries (Retsas, 2000: 602; Kuuppelomaki and Tuomi, 2003: 591; Egerod and Hansen, 2005: 471; Estabrooks et al., 2005: 125).

Most nurses (98.3%) use computers and/or the internet to obtain information about their profession (Table 2). This result can be considered in a positive light. A small percentage of the nurses (26.0%) use the library to access professional information (Table 2), indicating that the library is not a preferred knowledge source. Our results showing that not many participants were members of professional organizations (Table 2) were similar to that of Gözüm et al. (2000: 21), Kavaklı et al. (2009: 171) and Göriş et al. (2014: 140).

The nurses indicated that they mostly use the information they learned during nursing school, at in-service education programmes, from textbooks and the in-service courses for their own work units as knowledge sources in their practices. They rarely use their 'sense of what is right for the patient', information from media (e.g., popular magazines, television, etc.), or the information they get from the activities and journals of the Turkish Association of Nurses (Table 3). According to the results of Özsoy and Ardahan (2008: 606) the most frequently used knowledge sources were information shared by other nurses. According Estabrooks' results, nurses mostly utilise their experiences, knowledge obtained in nursing school, knowledge sources at their work places, discussions with doctors and their intuition (Estabrooks, 1998: 25). Nurses' personal experiences were the most important knowledge sources according to Egerod and Hansen (2005: 469). Estabrooks et al. reported that the personal information about the patients, nursing experience, information learned in nursing school and finally nursing journals were the primary knowledge sources used by nurses in their practice (Estabrooks et al., 2005: 126). It is a positive indicator that knowledge sources are not limited to that obtained via basic professional education and that continuing educations is utilised by nurses as well. However, it is of concern that evidence-based practices literature the least used source of information according to some studies (Estabrooks, 1998: 29; Karagözoğlu, 2006: 68; Özsoy and Ardahan, 2008: 606).

No significant differences have been reported when comparing knowledge sources uses according to age groups. The literature shows that the nurses use scientific knowledge sources less and their experiences and senses more as they get older (Estabrooks, 1998: 22; Soukup, 2000: 304; Zeitz and McCutcheon, 2003: 277). In the present study, there was not a significant relation between age and the knowledge sources used.

There was a significant difference between the knowledge sources that the nurses use and level of education completed. Nurses with post-graduate and bachelor's degrees use the knowledge sources more than those with high school and associate degrees. This result is similar to other reports (Estabrooks, 1998: 26; Maljanian et al., 2002: 89; Özsoy and Ardahan, 2008: 607). It is expected that as level of education completed rises, there is more use of the knowledge sources.

There was a statistically significant difference in the use of knowledge sources when analysed according to work units and job descriptions. Nurse managers use knowledge sources more than nurses who work surgical and internal medicine units; head nurses use knowledge sources more compared to clinical unit nurses. This is a positive indicator as head nurses are role models and support professional development of nurses in their units.

When knowledge sources opinions about knowledge sources were compared, we found that nurses who stated that they know how to get needed information attend professional scientific meetings more often, follow a professional periodical, use the library access professional information, use knowledge sources more often than those who did not know how to obtain such information. These are a positive aspect of nursing care quality.

No meaningful difference was noted between nurses who state that professional practice must be based on scientific information, access such information via computer/ internet or membership in a professional organization and those who use knowledge sources in their practices. Although there is not a statistically significant difference, nurses who think that professional practice must be based on scientific information, use the computer/internet to get professional information, or are members of a professional organization use knowledge sources more frequently.

A limitation of this study is that it cannot be generalised to a larger population, as it was only conducted in general training and research hospitals that serve regions of Istanbul. This study group does not reflect the overall picture in Turkey.

Conclusion and Recommendations

Most of the nurses think that professional practice must be based on scientific information. Most of the nurses state that they know how to get the information needed for their professional practices. Most nurses use computers and/or the internet to obtain information about their profession. The nurses indicated that they mostly use the information they learned during nursing school, at in-service education programmes, from textbooks and the in-service courses for their own work units as knowledge sources in their practices. In light of the present study results, continuing professional development programmes should be included as knowledge sources, and nurses should be supported to increase participation in professional scientific meetings such as congresses, and symposia.

Usability of study results; there are very few studies regarding knowledge sources used by nurses in their practices. Use of evidence-based decisions in patients' care is an important quality of effective nursing practices. Nurses need to use knowledge sources effectively and follow scientific and technological developments in order to make appropriate decisions in nursing care. This research can be used to guide development of continuing education programs and underscores the sources of knowledge about general nursing practice. This study can serve as an impetus to further study the use and highlight education needs of practicing nurses.

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