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THE SCIENTIFIC JOURNAL OF THE HELLENIC REGULATORY BODY OF NURSES

The Hellenic Journal of Nursing Science is the official journal of the Hellenic Regulatory Body of Nurses. It is a peer-reviewed, multidisciplinary journal that aims at promoting Nursing Science in Greece.
Through this specific scientific publication, the Hellenic Regulatory Body of Nurses both contributes to the promotion of the scientific nursing knowledge and signals a new era for the contemporary Greek Nursing history.
Under this framework, this scientific journal intends to:

- promote Nursing Science
- contribute effectively to the quality of concern for people as individuals, groups and the society as a whole in every healthy and sick condition
- scientifically highlight and broaden Scientific Nursing issues
- produce Nursing Policy and Policies and
- reinforce Nursing Research

The Hellenic Journal of Nursing Science (HJNS) constitutes a reliable, contemporary, quarterly-published scientific journal, available both in electronic and paper format under a symbolic fee to every interested researcher, university professor or student, to the whole Nursing community as well as the Higher and Highest Academic Greek and Foreign Institutions .At the same time, it signifies an invaluable tool of scientific knowledge for the Greek nurse, those still studying Nursing, professionals from other Health and Behaviour Sciences as well as every reader that desires to be scientifically updated and educated.
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3. provides the necessary tools and knowledge for the sound organization and presentation of the publication

4. promotes free and open access to the scientific knowledge for health workers

5. acknowledges the scientific needs of the Nursing community and contributes to their satisfaction though the creation of the present journal.

editorial

Dr. Kyriakos Kouveliotis
Editor - in - Chief

All Journal's contributors wish to express their satisfaction for its progress and at the same time for the support they have enjoyed from the Hellenic nursing community.
The Hellenic Journal of Nursing Science the official scientific journal of the Hellenic Regulatory Body of Nurses enters its second year of operation. In the framework of its continuing upgrade process, we have created, together with the new edition (Volume II, Issue I, January – February – March 2009), a special webpage in the electronic web link: www.nursingjournal.gr , where all the issues of the scientific journal from the start of its operation until today, will be available and free to all nurses of the country that are members in the Hellenic Regulatory Body of Nurses.
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The Journal remains loyal to its original aims and objectives:

- *to promote Nursing Science*
- *to contribute effectively to the quality of concern for people as individuals, groups and the society as a whole in every healthy and sick condition*
- *to scientifically highlight and broaden Scientific Nursing issues*
- *to produce Nursing Policy and Policies and*
- *to reinforce Nursing Research*

and is committed to a continuous effort of quality upgrade and promotion of Nursing Science in Greece.

Investigation of Knowledge, Attitudes and Beliefs of Health Students Regarding AIDS

Marianna Diomidous, MD RN PhD Lecturer of Epidemiology-Public Health[1],
Dimitris Zikos, RN PhD[1],
Ephrosyni Tzimogianni MSc[1]
1. Laboratory of Epidemiology, Faculty of Nursing-Public Health Sector,
National and Kapodistrian University of Athens

SUMMARY

Aim: the current study is focused on the investigation of the level of knowledge, attitudes and beliefs of healthcare students regarding AIDS. It is also making an attempt to clarify the role of the health authorities keen to provide protective measures and preventive strategies to tackle the AIDS epidemic. Due to their previous education and clinical experience, the selected sample is regarded to be more sensitized towards the HIV infected carriers and patients that the general population.

Methods: The study sample is comprised of 200 healthcare students, randomly assigned according to the study design. A questionnaire with opened and closed questions has been used for the study. The questionnaire is comprised of a range of questions on demographic data, on knowledge acquisition, on the sexual preferences, beliefs and practices and attitudes of the sample on AIDS.

Results: the data analysis indicated that the level of knowledge, attitudes and beliefs of the healthcare students is quite sufficient regarding the methods of the virus transmission, the natural history and the social consequences of the disease. Insufficient knowledge is recorded regarding the clinical and laboratory findings as well as the theraqpeutial treatment of the disease. Almost all the sample admitted to have adopted a healthy sexual behavior, due to the risk of contracting the disease in an adverse case and the majority responded positively regarding the use of condoms. It is rather encouraging to mention that a high percentage of the sample would be willing to have an HIV carrier/patient in their home or in their friendly social environment; meanwhile, they would be rather unhappy and reluctant to treat an AIDS patient in their ward.

Conclusions: according to the findings of the research, there is an imperative need to adopt new preventive measures for combating the AIDS epidemic. Targeted education campaigns to the general population, to high risk groups as well as to health personnel are of paramount importance for safeguarding the expansion of the disease.

Key words: AIDS, HIV, knowledge, attitudes, beliefs, healthcare students

Introduction

Epidemiology

The HIV infection is regarded as the number one thread for public health worldwide. Base on WHO data for 2006, there has been 39,5 million HIV POSITIVE CARRIERS, from which 37,2 million were over 21 years old, and 2,5 million were under 15 years old (WHO, 2006). In Greece, it has been noted a progressively increasing number of AIDS victims during the last years. Precisely, according to KEELPNO data, there have been recorded 410 male and 82 female HIV positive carriers the last ten months of 2008. During the same period, it has been noted 48 and 7 cases of AIDS respectively. The predominant method of transmission of the HIV virus was the one between homosexuals (51,3%). Meanwhile, the virus transmission between heterosexuals amounted to 13,3%. The age group mostly at risk founded to be the one between 30-34 years old (19,9%) for male, and for female the one between 25 and 29 years old (22,5%) (KEELPNO, 2006). It is also interesting to mention that one out of three cases between males and one out of two between females proved to have an unspecified mode of the virus transmission. The total number of HIV positive carriers in Greece, is more than 8000, with a male percentage of 79,9% and a predominant method of transmission the sexual act with other males

(46,3%).

From the onset of the AIDS epidemic until the recent years, the disease was found to be gradually increasing both for male and female population. From the year 2000 until the year 2002, the number of new AIDS case was decreasing. Unfortunately, from the year 2002 and on, the number of HIV victims is continuously rising.

Meanwhile there was an increasing trend of the epidemic, both for men and women. In contrast from the year 2000 the number of HIV positive carriers and patients started to gradually decrease until 2002. From that point though it has been noted a continuous increase in the number of HIV positive cases until the present time (KEELPNO 2006)

In the midst of the nineties the proportion of homosexuals in the totality of HIV positive carriers and patients amounted to a rather subtle decrease, using in reported coming years and becoming stable at the dawn of the decade, remaining the principal grouch affected by the HIV virus. In contrast the heterosexual transmission in the general population during the years (Dardaresis, 2005), (Tsantes, 2005) The immigrants coming from the sub-Saharan area and Central an d East Europe are the most common cases included in this high risk group (Nikolopoulos 2005). In any case, the percentage of HIV positive users remains in relatively low rates in Greece in comparison with other European countries (ΚΕΕΛΠΝΟ 2006) Scientists report that the rather increase in the numbers of HIV positive carriers and patients in our country is due to a change in sexual behavior, focusing on the fact of exchanging multiple sexual partners as well as on the fact of not taking any precautions during the sexual act. This problem is furthermore complicated by the fact of the increasing number of immigrants living in Greece coming from countries with not well organized healthcare systems.

In a worldwide scale the number of HIV positive carriers from the year 2008 amount to 39,5 million people from 70% are male. From this percentage the 38,3% are male homosexual, and 46,7% are heterosexuals pertaining in the high risk grout of the general population. The majority of the HIV positive diagnosed cases concerns young adults in the age of 35 of age and older.

Knowledge, Attitudes and Beliefs of AIDS in Greece.

There are quite a few research studies regarding the investigation of knowledge, attitudes and beliefs regarding AIDS. In Greece during the first years of the epidemic it has been noted racism against HIV positive carriers and patients. During the year 1993-4 it has been undertaken a research study to investigate students' knowledge and attitudes towards the disease from Grigoriadou et al. The selected sample for this study amounted to 720 students at the age group of 18-24- years old working at ΟΑΕΔ (Hellenic Organization of Job Offering). The results of the study unfortunately indicated a kind of racism towards HIV positive carriers and patients. Precisely percentage of 24,8% reported the need to classify the identity of the individuals willing to be examined for the existence of the HIV virus meanwhile a percentage of 27,1% mentioned that HIV positive carriers and patients should be isolated for not spreading the disease and 15,1% reported to be totally not interested for the AIDS victims.

To the positive side of the results, it has to be noted that a high percentage of 94,5% thinks that a state specific policy has to be established to protect HIV positive carriers and patients, meanwhile, a similarly high percentage of 81% feels sympathetic for these people. Similar were also the results of a study undertaken three years after the above mentioned study by Meracou et al in 2002. The selected sample for this study was 702 students pertaining to the age group of 15-20 years old studying in 15 Educational and Technological Institutions residing at the wider Athens area, during the year 1997. The results of this study indicated that a high percentage of 89,65% believes that HIV positive carriers and patients are a threat for the society as a whole, meanwhile a percentage of 31,75% would feel absolutely embarrassed if it would be notified to be an HIV positive carrier. Apart of that a relatively high percentage (76,5%) reported that it would still socialize with HIV positive carriers and patients, if needed. A related study has also been undertaken by Sapountzi-Krepia in two departments of the Technological Educational Institution (TEI) of Athens in 2000. The sample selected comprised of the students of the Public Health pertaining at the age group of 18-30 years old. The results of the study indicated an unwillingness to provide care to HIV positive carriers and patients. Precisely, a percentage of 44,58% accepted to provide care to HIV positive carriers and patients, if that would be necessary, meanwhile a percentage of 53,3% refused to answer or reported vaguely in terms of reacting positively to provide care to AIDS victims. In relation to gender a percentage of 63,64% reported positively accepting to providing care to HIV positive carriers and patients, meanwhile female students in a percentage of 47,48% reported similar reactions. This is a fact that requires further investigation. Regarding the attitudes of healthcare students HIV positive carriers or patients a percentage of 76,6% reported positive attitudes, meanwhile a percentage of 21% suggested to continue their studies under special conditions. A percentage of 58,86% reported that it would discontinue any sexual relationships if he/she would be notified that his/her boyfriend/girlfriend is an HIV positive carrier, meanwhile the 34,1% reported not to be able to answer this question. Finally, regarding the provision of care to HIV positive carriers and patients, female students reported to be more willing to give assistance to those people than their male counterparts. It is also interesting to mention the attitudes of some groups of immigrants as they were investigated by Kampoura-Nifli et al (2000). Especially, during the period of December 1999 to April 2000 it has been designed and implemented an epidemiological study of a selected sample of 100 Albanian women and 100 women of Bulgarian origin at the age

group of 17-48 years old. A 59,5% reported to be uninterested for the HIV positive carriers and patients and 27% mentioned that in case they would find out that their sexual partner is an HIV positive carrier, they would abandon him/her.

Additionally, in a relatively recent research study by Katsiardanis et al. (2006) in a representative sample of the population at the age group of 10-65 years old, it is clear that there is a differentiation of attitudes of the general population towards the AIDS victims. Precisely, the 80% of the sample firmly believes that the AIDS patients should be living normally in the society as a whole and should not be kept apart. Meanwhile, a 10% of the sample mentioned that if an HIV positive child carrier, or a child AIDS patient is studying in a school with their own child would transfer their own child study at the same school with the diseased one. Another 10% of the sample reported unable to answer the questions.

The attitudes for the AIDS disease are influenced by the level of relative knowledge. The level of knowledge has been a theme of investigation between the research community. In the above mentioned research study, which was implemented in 13 Educational Technological Institutions in Athens (Merakou, 2002), it has been found that the relative knowledge regarding the disease was adequate. In fact the 72% of the questions regarding the knowledge on AIDS has been answered correctly, even if only the 43,15% of the students reported to have acquired a sufficient amount of knowledge on AIDS. Regarding the sexual behavior is quite sad the fact that a 30% of the sample (especially the male participants) is worried about being infected by the HIV virus due to unsafe sexual behavior in the past, meanwhile the 41,9% of the male sample reported to have multiple casual sexual relationships. The use of condoms has been mentioned to be common among male students in a high percentage of 80% and for female students in a percentage of 56,7%. Interesting is also to mention a 64,8% of female students didn't have any sexual relationships yet. The parameters found to be related to the level of knowledge of the disease are the age group, the gender, the school achievement in terms of good grades and the religiosity. Regarding the attitudes of the sexual bahaviour of the immigrant women in the above mentioned study of Kampoura-Nifli (2000), the sexual life of these women was reported to be intense, monogamous, with the use of condoms only to prevent undesirable pregnancy and usually careless to contact sexually transmitted diseases.

Similar research studies focusing in the general population have been implemented by Kampouraki et al. (2006), in the recent years. The sample has been selected from the visitors of the "Helexpo for Health" exhibition in 2006, and groups of schools for which a seminar has been organized for AIDS. They have disseminated 171 questionnaires to participants at the age group of 16-41 years old. The results of the study were rather not encouraging, since a 19,23% mentioned that very rarely uses a condom for protection during the sexual intercourse. The denial to use a condom has been justified by the existence of a stable relationship. The absolute use of a condom at all times during the sexual intercourse has been reported by a percentage of 63,6% of the students who completed their studies in secondary education. An additional percentage of 71,4% of youngsters under the age of 18 reported also, that they always use condoms during their sexual intercourse. It is also interesting to mention that the level of knowledge regarding the sexually transmitted diseases is quite low for participants under the age of 18, meanwhile, the age group of 26-35 years old has the highest level of knowledge regarding the sexually transmitted diseases.

Similar results have been found in the research study of Katsiardanis (2006) in a representative sample of people at the age group of 10-65 years old regarding the methods of transmission of the disease. Precisely, a percentage of 15% is not aware that the virus can be transmitted vertically from an infected mother to the child; meanwhile a percentage of 30% believes that the virus can be transmitted via the insects. The same percentage (15%) is not aware that the virus can be transmitted by a common toothbrush.

A similar research study has also been conducted by Detoraki et al (2006). During the study, there have been disseminated 600 questionnaires with close-ended questions, anonymously to 300 participants at the age groups of 26-55 years old and 300 questionnaires of TEI A at the age groups of 18-25 years old. The highest percentage of the response rate were students (18-25 years old), meanwhile the general population group of 26-55 years old were only 30,5%. More students than the general population reported to be knowledgeable about the disease ($p<0,05$). Students use condoms in a higher percentage (58,8%) than the general population (48,8%) during their sexual intercourse, at all times. The sample mentioned that generally is not interested to learn about the methods of transmission of the HIV virus, neither about the methods of protection (general population 89%, students 72%). Meanwhile a higher percentage of students (45,2%) rather than the general population (35,1%) reported to be willing to learn more about the new Elisa and the Western blot test to detect the HIV virus. The sense of the risk of contacting the disease is rather low for the general population; meanwhile the students feel a higher risk of contacting the virus if they don't use the appropriate precaution measures. A 72,5% reported to have been in contact with health education material and the percentage of the general population regarding the same issue amounts to 64,1%. Both students and the general population reported that the health education strategies so far adopted by the state are rather insufficient and must be reformed and focused according to the needs of the general population and the high risk groups. A high percentage of both students and the general population of the city of Patras proved to be not interested to learn more about AIDS, with a higher trend among the general

population than among the students. This fact indicates a lack of systematic efforts from the part of the health authorities to impart knowledge regarding the AIDS disease.

A similar research study has also been conducted by Botsi (2006) the people calling the hotline "LAIS" during the time period of Summer 2004-Summer 2006. The sample comprised of a number of 376 individuals who during the above mentioned period used the hotline. 189 people called the hotline to ask simple information and 187 called to report a possible contamination by a sexually transmitted disease. The 187 individuals mentioned that they would have possibly contacted the sexually transmitted disease through a sexual intercourse. A 37% mentioned that it did not use a condom during the sexual act. The combination of the age group and the method of transmission of the virus indicated high percentages of contamination by the HIV virus especially for people over 29 years old. Meanwhile, the 8% of the people who called the hotline and had a sexual intercourse with an HIV positive carrier didn't use a condom and a 3% of the people who called the hotline and had an anal intercourse with an HIV positive carrier, did not also use a condom.

Finally, a research study on AIDS has been conducted by Anastasiou et al. There have been disseminated 100 questionnaires to Physicians, nurses and related health personnel, as well as to family members and relatives of children coming to outpatient clinics or children being hospitalized for AIDS, belonging at the age group of 10-65 years ols. Unfortunately, it has been found that even nowadays there is a low level of knowledge regarding AIDS in certain categories of health personnel. Especially, there is a lack of knowledge regarding the prevalence of AIDS and the methods of transmission of the disease. This fact is closely related (p=0,05) to the low educational level of certain categories of health personnel. A high percentage (2 out of 3 participants of the study) is confused concerning the contamination of the virus and lethal consequences of the disease regarding the HIV virus as more contagious than the Hepatitis B virus (61%). A percentage of 95% reported as the principal method of transmission the sexual act, meanwhile a 94% answered correctly the question on the detection of the virus in the biological excretions (blood, urine, sudor, pus etc).

To conclude, the investigation of all the above mentioned research studies, there is a general lack of knowledge, either in the population at large or in high risk groups, or even in students and healthcare personnel. This is due to insufficient health education campaigns and health prevention strategies regarding AIDS, adopted by the health authorities.

Scope of the Study

The present study is focused on the investigation of the level of knowledge, attitudes and beliefs of the healthcare students of the University of Athens. This study is keen to analyse the parameters that have an impact on the disease and the role of the health authorities in preventing the spread of the disease. The study used as a representative sample healthcare students, a fact that is of particular interest, because this group of individuals due to their knowledge and experience based on their clinical practice are expected to be more sensitized regarding the disease.

Methods

The study has been conducted with the use of questionnaires. The structure of the questionnaire comprises of four subsections. The first section focuses on demographic data. Precisely the questions included in that section inquire on the gender, age, family status, own educational level, parents' educational level and location of residence. The second section is comprised of a number of questions and the participants are called upon t evaluate their level of knowledge regarding the disease. The third section focuses on questions regarding the sexual behavior of the participants. The fourth section focuses on questions regarding the attitudes towards HIV positive carriers and patients. Precisely, the questions are focused on investigating the role of the family and friends in accepting HIV positive carriers and patients. Finally, the fifth section refers to the attitudes regarding the role of the health authorities to prevent the spread of the epidemic.

The questionnaire was given to 200 undergraduate and graduate students of the University of Athens. The statistical analysis has been performed with the use of the Statistical Package SPSS version 13.

Results

The average age of the sample is 22 years (18-42 years,sd=4). The 79% of the sample (N=158) are female and the 21% (N=42) male. Regarding the place of origin of the sample, 27,1% is from Athens and its suburbs (N=52), the 7,3% from Thessaloniki (N=14), the 3,1% from Patras (N=6), the 34,4% from other smaller cities (N=66), the 17,7% from provincial non urban region (N=34) and finally the 10,4% (N=20) outside Greece. Regarding the father's profession, the 15,5% are civil servants (N=30), 13,4% private employees (N=26), 29,9% have private enterprises (N=58), 8,2% farmers (N=16), 6,2% are physicians/healthcare professionals (N=12), 9,3% tutors (N=18), 3,1% military officers (N=6), 4,1% labor workers (N=8). The majority of the sample mothers are housewives (43,8%, N=84), the 8,3% of the cases are civil servants (N=16), 13,5% (N=26) are private employees, the 10,4% (N=20) have free enterprises, the 8,3% (N=16) are physicians/related health personnel, the 7,3% (N=14) are tutors, the 2,1% (N=4) are labor worker and the 6,3% (N=12)

are pensionates. In regard to the family status of the sample, the 98% are single and 2% are married, a fact that is expected, due to the young age of sample. Regarding the family status of the sample parents, the 89,8% (N=176) are married, 6,1% (N=12) are divorced and 4,1% (N=8) are widows. With regard to the father's educational level, 21,4% have completed elementary education (N=42), the 7,1% have completed secondary education (N=14), the 27,6% have completed Lyceum-TEE (N=54), the 11,2% have completed the tertiary education (N=22) and 32,7% (N=64) are University graduates. Finally, regarding the mother's educational level, the 14,1% have completed the elementary education (N=28), the 15,2% have completed secondary education (N=30), the 36,4% have completed Lyceum-TEE (N=72), the 13,1% have completed the tertiary education (N=26) and 21,2% (N=42) are University graduates.

Knowledge on AIDS

Regarding the self-education of the knowledge on AIDS the results of the study indicated that 5,1% (N=20) mentioned to be poorly informed as far as the methods of transmission are concerned, the 52% (N=104) mentioned to be sufficiently informed on AIDS and the 42,9% mentioned to be thoroughly informed on AIDS. Meanwhile none of the students reported ignorance on the methods of transmission of the disease.

Regarding the knowledge of the clinical symptoms of the disease, a relatively high percentage (30,3, N=60) reported to be poorly informed, meanwhile the 49,5% (N=98) and the 20,2(N=40) reported sufficiently and thoroughly informed respectively.

Similarly, for the laboratory findings it has been found that more than half of the sample is poorly or never informed. Precisely, 11.1% reported never informed (N=22), (46,5%) poorly informed (N=92), 37,4% sufficiently informed (N=74), meanwhile only 5,1%(N=10) reported thoroughly informed.

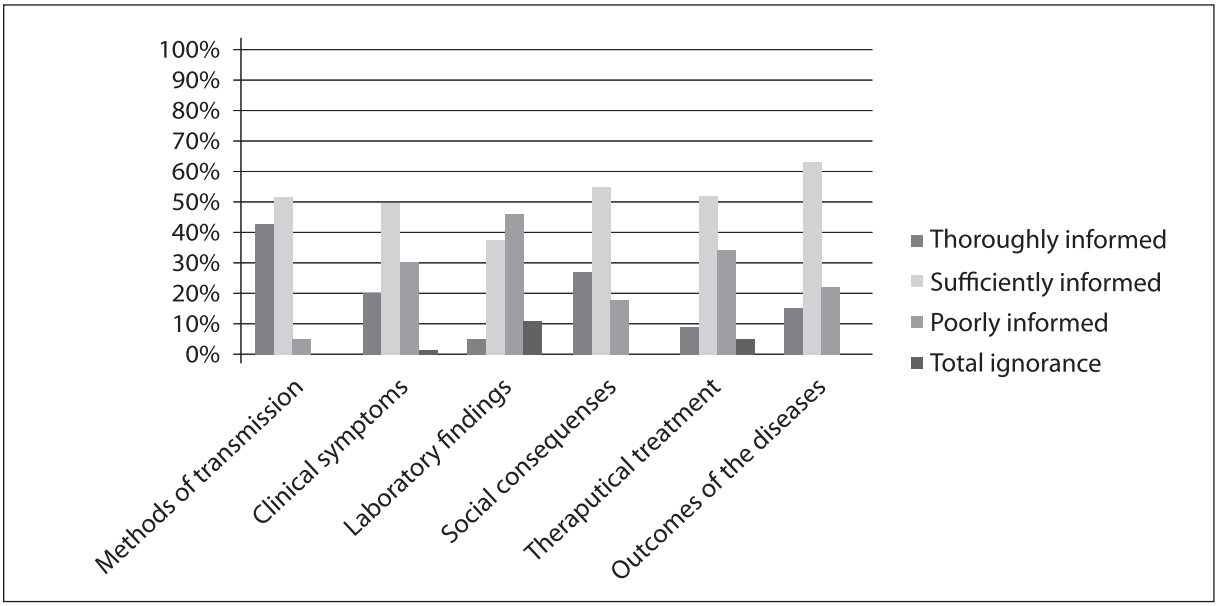
Regarding the level of knowledge on the social consequences of the disease, the 27% reported thoroughly informed (N=54), the 55% (N=36) reported poorly informed.

As far as the therapeutical treatment of the disease is

Table1: Self-evaluation on the level of knowledge of AIDS

Field of knowledge (self evaluation)	Thoroughly informed	Sufficiently informed	Poorly informed	Total ignorance
Methods of transmission	42,9% (N=76)	52% (N=104)	5,1% (N=20)	-
Clinical symptoms	20,2% (N=40)	49,5% (N=98)	30,3% (N=60)	1% (N=2)
Laboratory findings	5,1% (N=10)	37,4% (N=74)	46,5% (N=92)	11,1% (N=22)
Social Consequences	27% (N=54)	55% (N=110)	18% (N=36)	-
Therapeutical Treatment	9% (N=18)	52% (N=104)	34% (N=68)	5% (N=10)
Outcomes of the disease	15% (N=30)	63% (N=126)	22% (N=44)	-

Figure 1: self evaluation on the level of knowledge on AIDS



concerned the 5% (N=10) of the sample reported to be never informed, the 34% (N=68) reported to be poorly informed, the 52%(N=104) reported sufficiently informed and finally the 9%(N=18) reported thoroughly informed.

The last question of this section is concerning with the self-evaluation of the students regarding the level of knowledge on the outcome of the disease. The 22% of the students reported to be poorly informed (N=126), the 15% reported to be thoroughly informed (N=30) , meanwhile none of the students reported ignorance on the subject.

Attitudes

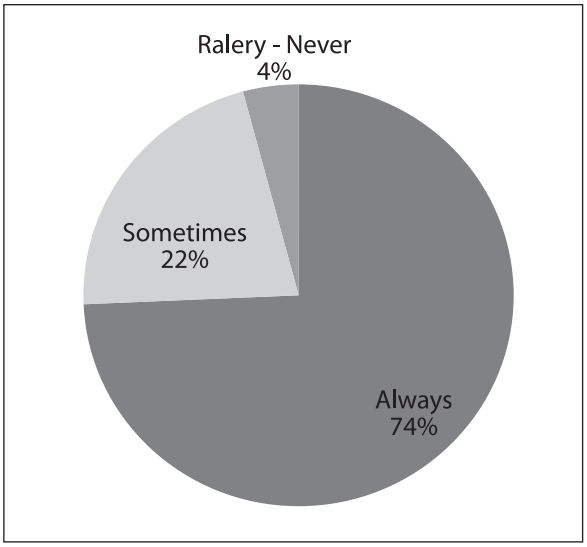
Regarding the use of a condom during the sexual act, the 74,2% reported a continuous usage (n=144), 21,6% reported to sometimes use condoms (n=42) meanwhile a percentage of 4,2% reported to use a condom rarely or none of the times during the sexual intercourse (n=8). Only 10 participants mentioned to use other measures of protection, especially contraceptives (n=6), as well as interrupted sexual intercourse (n=4). Regarding the number of sexual partners during the last year, the 19,2% reported not to have any sexual partner at all, the 66,7% to have two sexual partners (n=132), the 10,1% three to five sexual partners (n=20), and 4% to have over five (n=8).

Regarding the acceptance of an HIV positive carrier in the family, the 41% (n=82) reported that they would definitely accept such an individual at home, the 49% (n=98) reported that they would rather try to accept such a person in the family, the 8% (n=16) reported that they would only in some cases accept such an individual in their home environment, and only four participants reported that they would never accept such a person in the family. As far as it concerns the acceptance of an AIDS patient in the family, the 39,4% (n=78) reported that they would definitely accept such a person in their home environment, the 41,4% (n=82), reported that they would rather accept such a patient in the family, the 14,1% (n=28) reported that they would rather accept such a person in the family environment and 5,1% (n=10) reported negatively.

As far as it concerns the acceptance of an HIV positive carrier in a friendly social environment, the 34% (n=68) reported that they would definitely accept such a person, the 55% (n=110) mentioned that they would rather accept such an individual and the 10% (n=20) reported rather not. Finally, only two participants in the study reported negatively.

Regarding the acceptance of an AIDS patient in a friendly social environment, the 29,9% (n=58) reported that they would definitely accept an AIDS patient. The 48,5% (n=94) reported that they would rather accept such a person, the 18,6% (n=36) reported rather not and finally the 3,1% (n=6) reported negatively.

Figure 2: frequency of a condom use



Interesting, proved also to be the results to the question of the provision of care to an AIDS patient, based on a positive or negative choice of the participants. The 33% (n=66) reported that they would definitively provide care to an AIDS patient, the 47% (n=94) reported rather positively, the 16% (n=32) reported rather negatively. Meanwhile, 4% (n=8) of the participants reported absolutely negatively.

Fascinating are also the results to the question regarding the beliefs of the students as far as the role and the policies adopted by the state to prevent the spread of the disease are concerned. More than 80% reported that the strategies implemented so far for the AIDS prevention proved to be insufficient. Precisely, 20,4% reported that the strategies adopted by the state proved to be inadequate, the 18,3% reported that the policies implemented by the health authorities isolate outside the society the HIV positive carriers and patients, the 16,1% mentioned that the role adopted by the state to combat the AIDS epidemic is rather insufficient, meanwhile the 19,4% reported that the overall strategies implemented so far by the state had a rather negative impact regarding the adoption of protective measures against the AIDS disease.

Discussion

The health students, participants of the study, seem to be adequately informed on the methods of transmission of the AIDS virus, meanwhile, a rather small percentage (5,1%) seems to be poorly informed on the subject matter. In contrast, regarding the knowledge on the clinical symptoms of the disease, only one to five participants reported to be thoroughly informed, with the majority of the sample to be sufficiently informed, meanwhile, one to three reported to be poorly informed. Even higher is the percentage of the participants who reports poorly informed about the laboratory findings of the disease, with almost half of the sample to report totally uninformed on the subject matter.

Regarding the social consequences of AIDS, four out of five participants report to be sufficiently or even thoroughly informed on the multiple social consequences of the disease, meanwhile, regarding the therapeutical treatment of the

disease, two out of five participants self evaluates their level of knowledge as quite low on the subject matter. To the question on the level of knowledge regarding the outcome of the disease, one out of five participants reports to be either poorly informed or totally uninformed.

As far as it concerns the sexual preferences of the sample, three to four participants reported to use a condom in a common base during the sexual intercourse, meanwhile only 4% reported to never use a condom during the sexual act. These percentages are actually quite high in relation to other research studies which have been conducted in the past in Greece. Precisely, in a similar study conducted by Detoraki et al., the participants of the study used a condom in a percentage of 58,8% only. As far as it concerns the attitudes of the participants in the study towards the HIV positive carriers indicated that almost the whole sample (9 out of ten participants) would accept such individuals in their home environment. Lower is their percentage of acceptance of an AIDS patient in a home environment (80,8%). Similar are the results regarding the acceptance of an HIV positive carrier and patient in a friendly social environment. Identical proved to be also the results found in other research studies conducted in Greece with young participants, not pertaining in a special group, such as health students, meanwhile, in another study, a respective percentage of parents (10%) would change the school of their child if an HIV positive child or patient would attend the same school.

Worrying is also the fact that only one out of three participants would definitively provide care to an AIDS patient in a hospital in case he or she has the choice to accept or deny the provision of such care. Unfortunately, this fact indicates the existence of a hidden racism towards AIDS carriers and patients. Presumably, this low percentage may be linked to the fear of transmission of the HIV virus through needle piercing, but it would be rather useful to further investigate these aberrant behaviors of the participants.

Regarding the attitudes of the students towards the role of the health authorities to the provision of HIV carriers and patients, more that 80% reported insufficient strategies adopted by the state. Overall, the role of the health authorities is mentioned to be inadequate and insufficient, leading to a further isolation of the HIV positive carriers and patients. The same results on the subject matter have been found in a study of both the general population and students of the Technological Educational Institution of Patras.

Finally, summarizing the knowledge, attitudes, and beliefs of the health students in Greece, it has been proved that the majority of the sample is quite sufficiently informed regarding the methods of transmission of the virus, the outcome and the social consequences of the disease, but is rather insufficient regarding the therapeutical treatment, the clinical symptoms and the laboratory findings of the disease. Almost all the participants reported a health sexual life and a common use of condoms.

In conclusion, the majority of the participants of the study would accept HIV positive carriers and patients in their family and friendly social environment, meanwhile a very high percentage of the sample also reported that they would unwillingly provide care to HIV positive carriers and patients if they had the choice to do so.

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The importance of Assessment Indicators Concerning Therapeutic Interventions, Operation of Health Services and Population's Health in the Matter of Health Policy Planning.

Naoum Marina Ant., RN
Student (on thesis) of postgraduate study program "Health Institutions and Policies",
at Faculty of Social Sciences- Department: Social and Educational Policy- University of Peloponnese.

ABSTRACT

The need for evaluation in the space of health was created mainly because the disputed effectiveness of many therapeutic interventions and services of health, but also due to the organizational and administrative lacks that lead to loss of resources and to inflation of expenses for the health. With the term "Evaluation", is comprehended the estimate, with systematic way, of the degree of achievement of planned in advance and also predetermined aims and objectives, in concrete time interval, with objective aim the confirmation of the achievement of this objectives, as well as the means and the activities that are used for this achievement. The evaluation is considered as an integral and important piece of planning, organization and administration of each service or system of health. In this article it is attempted:

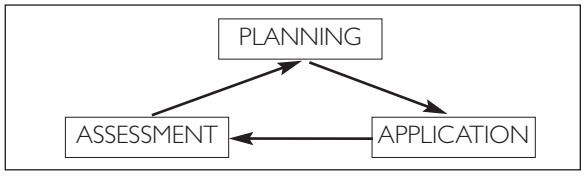
- A synoptic & systematic examination of the most important indicators of the evaluation of the therapeutic interventions, the operation of the services of the health and the health of the population, in the planning of policies of health.
- The appointment of the social and political dimension of the evaluation and the formulation of certain thoughts and reflections.

Key words: effectiveness, efficiency, equity, evaluation, health

Assessment in the Field of Health

Assessment is integral and fundamental part of planning, organization and administration of each health service or system. Assessment in the field of health includes two essentials sectors: assessment of medical and nursing intervention, health programs as well as assessment of partial health systems (Tountas G., 1999) (see figure 1). As evaluation of a health system or partial health services operation could be regarded an evaluation of health services and systems on the basis of some factors concerning theoretical or experience standards. These standards could be either absolute either comparative. In the first case, the assessment of health system or health services and its deriving results is being performed on the basis of predetermined objectives while in the second case it is being performed as per relative health systems or services that are considering as reference points.

FIGURE 1



Assessment Levels of Health Services and Systems

Health services and systems can be analyzed and assessed at various levels. There are diverse classifications as per these levels. According to Donabedian (Donabedian 2004), there are four classification levels in the field of health:

INFLOWS >> PROCEDURE >> INTERMEDIATE OUTFLOWS >> RESULTS

Inflows assessment values human and material resources of a health service. That is to say that staff, equipment, installations, cost such as other factors, which determine to a considerate extent the structure and

content of a health service, are assessed.

Assessment of service provision procedure is referred to valuation of "intermediate" providing services' organization and quality. The quality assessment constitutes a rapidly developing assessment field that is integrated in procedures of quality assurance and amelioration.

Assessment of intermediate outflows evaluates the use of health services (e.g. hospital beds, private or external consulting rooms) and the volume of directly obtained product (e.g. laboratory examinations, vaccination or surgery operations). Intermediate outflows are in many occasions used as effectiveness measure of a health service which results are difficult and time-consuming to be evaluated. The relation between inflows and outflows is an effectiveness measure of a service.

Results assessment constitutes the final aim of assessment and is referred to influences in a person's or population's health. The result assessment can be executed during service operation or retroactively after the end of operation term when its influences in health are obvious. The continuous and regular evaluation of health level is possible through the use of morbidity and mortality indicators deriving from compound epidemiological field researches, mortality indicators, survival tables, survival diagrams as well as through the use of modern indicators that measure the dimension of body, soul and social well-being such as questionnaires concerning measurement of life quality related with health. The combination of all four evaluation levels with the use of proper indicators can lead to complete evaluation of a health service or system but also can lead to the extraction of reliable conclusions.

Standards of Health Services and Systems Performance

The assessment of health services and systems usually combines the views of different parties involving in health such as patients, suppliers, insurance organizations etc. Consequently, the assessment will have to be performed not only through simple inflows, procedures, outflows and result analysis but also a right and a balanced choice of performance measures or standards is obligatory. Standards are quantitative determined variables that evaluate sectors of health services and systems operation in accordance with some acceptable standards. The performance standards will have to be referred to inflows, procedures, outflows and final results and to focus on fields that interest more the involving institutions, (Moullin M., 2004). These standards correspond subsequently to proper performance indicators. The indicators that contribute to the formation of standards constitute a net number defined as a percentage frequency rate of a specific occasion. Cochrane was the first that showed off the need of evaluation of clinic practice (Cochrane, 1972) under the standards of:

Equality

According to World Health Organization, equality is an equal access and use of health services and similar patients' care, independently of social, financial, sexual, cultural and other factors.

Equality is a basic and principal concern of health policy.

Effectiveness

As effectiveness of a health service or system is defined the grade of aims' achievement set by their planning and programming. However, because of the fact that aims refer to diverse sectors (e.g. quality, equality and accessibility) the term is often referred to clinical effectiveness, in other words it is referred to grade of aims achievement relative to results concerning population's health (morbidity, mortality etc.). Effectiveness is a principal concern of direct producers (Doctors and Nurses).

Productivity

Productivity evaluates the results of a health service or system with respect to used resources – financial, material and human. Productivity constitutes a basic claim of people that manage health services in contrast with the basic goal of those that are involved in health care which is productivity. This is due to the fact that the high cost of treatment is heavily associated with absence of health services' productivity. In general, productivity is considered to be maximum when a given product quantity is produced by as less cost as possible and its quality is as good as possible or when given the cost, it is produced the maximum product quantity. Productivity is closely related to effectiveness and calculates results' quotient towards inflows, expressed in working hours and by this way it focus on value of human work as production factor.

Concerning the health service and system, productivity is usually defined by the ratio of inflows/outflows, where outflows are either intermediate either final and inflows are measured in physical units or they are converted in financial units and are referred as cost. For example, during evaluation of a hospital, inflows often include direct operation cost, human resources, and available beds, intermediate outflows include the number of surgery and laboratory acts as well as the number of hospitalized while final outflows include the amelioration of morbidity and mortality indicators.

Quality

The meaning of quality some times is used as a standard that expresses the extent of satisfaction of clients-patients and some times it is used as broader standard of total performance, including effectiveness, productivity, accessibility to health services, satisfaction of patients and scientific integrity and safety of care procedures (Tountas G., Oikonomou N.A, 2007). According to World Health Organization (WHO), quality is the provision of diagnostic and therapeutic acts able to ensure the best result in the field of health in the context of modern medicine capability that has to focus on maximum performance with the minimum iatrogenic danger and on maximum patient's satisfaction in terms of procedures, results, and human

contact. The standard of quality because of particular importance, in our ages, constitutes a separate sector of health services that is studied unilaterally from other dimensions of evaluation.

Secondary evaluation standards

Other secondary standards related to standards mentioned above and that are used for more complete health services evaluation are:

- Adequacy. It expresses the rate of quantitative response of health services to health needs and to derived demand of a determined population. It is estimated with bed indicators per population, doctors per population etc.
- Competence. It determines the relation of providing services regarding to needs but also to population desires. The indicators of competence are mainly referred to rate of population coverage concerning the quantity and quality.
- Availability. It expresses the possibility of health services provision without time or other constraints (e.g. health centre open 74hours).
- Accessibility. It presupposes the adequacy and availability of services and expresses the equal possibility of each beneficiary to use the providing health services without geographical, traffic or financial borders. The number of people or the percentage of certain population that are expected to use some health service as well as the time of transfer to service and the waiting time until use determines accessibility.
- Acceptance. It evaluates to what degree social and cultural factors influence the acceptance of health services by permitting or preventing the initial contact and service use.
- Activity. It expresses the clinical productivity of interventions applied by service under ideal, experimental conditions.
- Compliance. It defines to what extent patients apply the medical and nursing orders systematically.
- Continuity. It expresses the ability of complete health services provision to population, in order to be provided continuous and not fragmentary treatment (e.g. connection of primary and nursing treatment).
- Accountability. It is the ability of health consumers and buyers to control and influence the directions and policies of health services with different ways. It is calculated by indicators of collection date frequency, data reliability, participation of consumers to decisions etc.
- Reciprocation. It is a meaning evaluated by WHO and defined as the rate that health system corresponds to legitimate expectations of people regarding to every no medical aspects of their transaction with it (e.g. dignity, confidentiality, right to choice etc.). It is composed by eight partial sectors that are assessed by citizens and is related with treatment quality.

Other secondary standards are:

There are also other secondary standards (Net portal for Health: www.nosokomia.gr, 2008) such as:

- Scientific and Technical Quality Level
- Adequacy
- Aspect
- Impact
- Economic Proportion

The above standards are parameters that are taken into consideration during process of Health Services assessment. The assessment of one health service usually examines certain goals of service or of its partial programs and the rate of their achievement is evaluated by the use of relevant standards (e.g. adequacy, productivity, effectiveness etc.) that correspond to the proper indicators. The evaluation is performed by the choice and application of proper methods.

Methology of Assessment

The basic elements that one has to take into consideration concerning the determination of assessment framework include the definition of assessment field that is to say the main object of it, the pre-planed goals of assessment, the determination of methodology that will be applied and finally the collection and analysis of elements and results. Collection, analysis of elements and the creation of results presupposes that all goals have to be measurable, expressed in numerical form and be observed for a specific time interval.

Assessment Indicators

Indicators that form the assessment standards are usually a net number defined as a percentage rate of a specific event. The Assessment Indicators are being highly used for measurement and analysis of elements and for the extraction of results arising out of assessment. The assessment indicators have to be valid, reliable, sensitive and qualified. There is a large number of Assessment Indicators that according to WHO are classified in five basic categories (Net Portal for Health: ''www.nosokomia.gr'', 2008):

- Indicators of health policy
- Socio-financial indicators
- Indicators of population health level
- Indicators of health services provision
- Indicators of primary health service coverage

Depending on health services that are under assessment, the type of desirable assessment and the possibilities that are

offered, they are chosen the relevant indicators from a large number of indicators used in the field of health. The most important types of indicators are:

Inflows indicators (simple quantitative indicators, as the number of doctors, nurses, inflows quality indicators as staff education, adequacy indicators as the number of beds per 100.000 citizens (net portal of E.U concerning health, 2008), geographic accessibility as the population rate situated near a health service, the occupied nursing staff (net portal of E.U concerning health (2008), etc.)

Indicators of procedures assessment (e.g. reliability of diagnostic examinations, patients' satisfaction, medical techniques' integrity, waiting time)

Indicators of intermediate outflows (e.g. simple contact indicators or services' use as the number of imports, composed use indicators as the average durance of hospitalization, indicators of laboratory examinations or products as the number of surgeries per specialization each year, result indicators and health population indicators (morbidity, mortality) and modern indicators of well-being, productivity indicators as relevant effectiveness and indicators of undesirable acts. The indicator that is referred to life expectancy without health problems calculates the number of years that is expected to live someone per average without health problems, persons of a certain age (GENERAL SECRETARIAT OF NATIONAL STATISTICAL SERVICE OF GREECE, PRESS RELEASE 2004), while the indicator of life expectancy estimates the number of years that are expected to live persons of a certain age per average, etc.

Performance indicators (e.g. technical productivity, indicators of financial evaluation, the ratio of cost/productivity etc.)

Composed socio-financial indicators (e.g. income, residence, work conditions)

Indicators of civil health (civil choices, resources distribution, organized framework)

In parallel with establishment of Lisbon Strategy, the European Committee proposed a general approach strategy of health indicators for member-states of European Union (net portal of E.U for health, 2008). The aim of this strategy is the development of a comparative –between member-states-information system relative to health subjects. This information will cover:

- Health-concerning population behavior (e.g. information for life style, smoking, alcohol, exercise etc)
- Diseases (chronic, rare and serious diseases etc.)
- Health systems (e.g. indicators relevant to treatment, quality of provided treatment, human resources, financial sustainability of health systems etc.)

The structural indicators are chosen on basis of under mentioned standards:

- They must be comprehensible
- They must be relevant to plasticized policies
- They must be consistent with other indicators
- They must be inserted timely and be renewed regularly
- They must be accessible to all member-states
- They must be comparative between member-states but also compatible with Countries as USA and Japan
- Data must be derived from valid sources
- They must not impose high volume in statistical institutions and organizations

Prioritization of Basic Assessment Standards

Prioritization between primary assessment standards is the object of scientific interest. For Cochrane, productivity was of essential interest. The choice of an effective medical method also contributes to efficient use of resources and consequently ensures –almost automatically- the productivity. For Cochrane, the subject of equality is resolved by provision of every efficient treatment free of charge, considering that in that way there is equal access to health services. The equalization that Cochrane used is:

Effectiveness>Productivity>Equality

The response is that automatic assurance of effectiveness is not always possible. So, when effectiveness of a medical intervention is established, its cost has to be evaluated and the most beneficial premises must be determined for its application, through application of methods analysis cost-effectiveness. On the basis of effectiveness standards, priorities and needs concerning human, material and financial resources could be determined. Additionally, the equalization downgrades the subject of equality since it presupposes the right of users to exploit chances offered by a health system. Nevertheless, the exploitation of equal chances is not often achievable. So, the reformulation of equalization was necessary in order to underline the assurance of equality to desirable health results and not only the access possibility under the following form:

Equality>Effectiveness>Productivity

In some cases, the purposes of equality and productivity are simultaneously attained. The displacement of health resources from an area with large health infrastructures and low mortality indicators to an area with insufficient infrastructures and high mortality constitutes an example. Generally, equality and effectiveness are competitive meanings and it is too difficult to be a simultaneous maximization of them both. In these cases, a compromise is obligatory in order to achieve the "integral balance" or the equivalence between effectiveness and equality, namely the point beyond of which, amelioration of one size could be achieved only against another. In some cases, the choice of health program could primarily be on basis of social offering; in specific "weak" parts of population (e.g. poor, elderly, and employee mothers) even if such an action charges productivity.

It is concluded that, independently of scientific interest of basic standards' prioritization, it is also obvious the political framework according to which health services' and systems' assessment will be performed.

Social and Political Dimension of Assessment

The integration of equality in primordial assessment criteria of a health system presupposes that health is a social good. The school of parity is the one which developed this point of view. According to its point of view, production and health services distribution have to be performed on the basis of real patients' needs. So, equality is related to the sense of performance which is a distribution that aims at fair resources' allocation. At the other side, there is the liberal point of view that considers that distribution has to be performed according to conditions that operate every consumer goods, namely by virtue of market operation.

Equality has two dimensions, the horizontal and the vertical one (Tountas G., Oikonomou N. A, 2007). The horizontal one is attained by equivalent resources and services distribution (e.g. similar doctors rate per 1000 citizens) as well as by equivalent access (e.g. same distances from primary health services) and use of health services from the total of population. The final goal is the reduction of inequality in health by convergence of health indicators regarding geographical or population level. The vertical equality recognizes the need of population treatment depending on specific needs, fact that leads to different products and health services consumption according to partial needs. Yet, the vertical equality provides gradual financing based on financial possibility of each citizen.

In every country, depending on historical and political situation, the equivalence in access and in health services consumption is attained by smaller or bigger interventions of state. Interventions are various and different, they depend on the type of health systems, the rate of social policy and on the structure of politico-financial system but they have as common denominator the control of health services' side and the maximization of utility/usefulness of community.

The resources' distribution aiming at increase of effectiveness and performance of maximum utility/usefulness to community constitutes the fundamental goal of health systems but it can not assure that the total utility is distributed according to real health needs. So, it is observed that health systems with market mechanisms (liberal policies) present important inequalities as regards health services inequalities resulting to distribution of greatest number of utility to higher socio-financial classes (Tountas G. , Oikonomou N.A, 2007).

It has to be remarked that substantive approach of socio-financial inequalities in the field of health presupposes, beyond sanitary interventions, and other socio-financial interventions (e.g. better education, unemployment combating).

Another inequality concerning many health systems is that population groups with low income spend more than their gross income in comparison with high income groups, although they assume less health provisions. The mixture of financing sources influences heavily the equality standard and contributes to a discrimination of systems financing the health services in progressive and not progressive. Countries with progressive system are countries with public or socio-assurance character. The national health systems that are financed throughout taxation and where enters into force the progressivity of tax index, ensure that high incomes will be charged aiming at equality and social solidarity. In socio-assurance systems it is attempted, through higher charge of employers' contributions, a redistribution of sources from high to low incomes. On the contrary, in countries, where progressivity in financing of health services (e.g. USA) is not in force, there are major inequalities relating to access and use of health services (Tountas G., Oikonomou N.A, 2007).

These inequalities in health constitute a major challenge for health policy. Therefore, measurement and surveillance of changes concerning inequalities is necessary for evaluation of effectiveness of interventions in health policy.

Lately, technocrats outlined that an individual is also responsible and must not charge with additional expenses the health system by paying no attention to his health. On the basis of this concept, it is probable to be planned health policies that orientate to solve the problem of a population party and not to find a solution of general problems. As a result, the people who decide, many times consider persons as absolutely responsible for their health and they exclude person categories (as obese, smokers, alcoholics and generally persons that depend on chemicals etc.) from health services. This lead to the false impression that people have the force to plan completely their life so as to be able to combat prevented risks and consequently when they are sick, they are considered responsible and are blamed (victim blaming). Such a concept is expressed in the undertaken revision of National Health System of United Kingdom according to which, during this year, it was approved the "Leicester City Primary Care Trust" by government. Its purpose is to exempt smokers from waiting lists as regards surgeries such as ischium replacement and heart surgery (Telegraph.co.uk, 2008).

Conclusions

By the above elements it arises that assessment of Health Services is a very complex and large procedure that presupposes the development of a specific type and model of assessment, a certain methodology as well as a proper choice and use of Assessment index in the framework of a general, social and financial policy. Nevertheless, the assessment procedure is a useful tool for management of health services because it facilitates the financial control, contributes to evaluation of effect of applied policies, finds some defaults and promotes the application of structural actions and finally leads the planning of future policies and determines new goals.

The exploitation of assessment results and index must not be realized in the strict framework of a grim technocrat approach but in close and direct relation with solid values and society's beliefs.

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Cost of Medical and Nursing Actions to the Intensive Care Unit.

Intas George
RN, MSc, candidate doctor of university of Athens.
Pitsoli Maria
RN.
Myrianthefs Pavlos
Assistant Professor, Nursing department University of Athens, Athens.
Baltopoulos George
Professor, Nursing department University of Athens, Athens.

ABSTRACT

Aim of this study: Was the calculation of the cost of the most common medical and nursing procedures to the intensive care unit.

Design/methods: Data were collected from 60 patients for 166 days of hospitalization. The study's duration was about 5 months and the data collection started at 1/6/2005 and finished at 13/11/2005. The procedures which had been calculated were: the pressure ulcer care, the arterial line placement, the peripheral and central venous line placement, patient transportation for CT, the bronchoaspiration, the receipt of arterial blood gases, sputum and urine, the tracheostomy tube`s change, the Levin`s and the Swan-Ganz catheter placement. The statistical analyses were performed with SPSS 13 and x2 tests.

Results: The patients had an average age of 53.62years. The cost of the procedures were found: central venous line placement 67.03±29.18 euro, arterial line placement 3.92±0.18 euro, tracheostomy tube`s change 17.23±0.33 euro, bronchoaspiration 3.32±0.03 euro, patient transportation for CT 0.49±0 euro, receipt of arterial blood gases 1.6±0 euro, sputum`s reception 3.46±0.56 euro, reception of urine 1.26±0.43 euro, pressure ulcer care 8.48±0.28 euro, peripheral venous line placement 1.71±0.28 euro, Levin`s placement 5.81±0.62 euro και placement of Swan-Ganz 265.94±0.86 euro.

Conclusions: The study show the cost of the most common medical and nursing procedures to an intensive care unit and the relation that the cost has with the experience of the health care providers.

Key words: Cost, experience, Pressure ulcer care, Bronchoaspiration, arterial blood gases, Arterial line, Peripheral line, Transportation for CT, Levin, Swan-Ganz

Introduction

The cost of Intensive Care Units (I.C.U.) can be separated in direct expenses for their function and in indirect expenses (Arthur, 1979, Health technology, 2003). The Sanders appreciated that for the Massachusetts general hospital of Boston the direct expenses (equipment, etc) constituted the 65%, while the 35% constituted the indirect expenses (general expenses, cleanness etc) (Sanders, 1983, Health technology, 2003). The direct expenses include regularly and variable charges. The constant expenses do not depend from the number of nursing patients and include the expenses of manufacture, renovation, purchase and maintenance of equipment (Arthur, 1979, Health technology, 2003). The variable expenses depend from the volume of the provided health care services. Certain variable expenses, as the wage of professionals of health care are constants for a concrete volume of patients and they change when the number of patients exceeds the expected. Other variable expenses, as the "consumable" equipment and oxygen, depend directly from the number of the heavily suffering that nurses in an I.C.U. (Arthur, 1979, Health technology, 2003). Data collected from I.C.U. showed that the 50-80% of the direct expenses is for personnel, mainly for hospitalization (Sanders, 1983, Civetta, 1973, Griner, 1971, McCleave, 1977). On average, I.C.U. patients require three times more time for hospitalization from the patients that nurses in general departments (Russell, 1979).

Aim

The aim of the study was to calculate the cost (in Euros) of the most common actions that are realized in daily base in the I.C.U., reporting so the absolute cost of an action, as the related one with various parameters as the specialization of professionals of health care and the gravity of situation of the patient.

Material and Method

The sample of the study was constituted by 60 patients, 43 were men (71.67%) and 17 women (28.33%), that were imported for hospitalization in the general Academic ICU of KAT in time period of 166 days (1 June 2005-13 November 2005). Criteria of exclusion of patients from the study did not exist.

It was calculated the cost of the following actions: the pressure ulcer care, the arterial line placement, the peripheral and central venous line placement, patient transportation for CT, the bronchoaspiration, the receipt of arterial blood gases, sputum and urine, the tracheostomy tube`s change, the Levin`s and the Swan-Ganz catheter placement.

For the collection of data it was used a form of recording that included the demographic elements of patient, the measurement`s system of gravity of illness of patients, the materials that are required for an action, the number of efforts that became in order an action to be achieved and also who professional of health care participated in the process. In all the patients was calculated the gravity of their illness with the systems APACHE II (Knaus, 1985) and SAPS II (Le Gall, 1993). All the data were collected from their files and from the electronic systems of his continuous follow-up, according to the guidelines that are described in the articles of growth of original systems. The data collected only at the duration of morning shift.

The cost of the actions has been calculated according to the tariffs that were given by the office of supplies of hospital and has been included the tax of added value 19%.

The statistical analysis of data was done by the statistical parcel of SPSS 13. It was used the descriptive statistics and the statistical control of x^2.

Results

The mean age of patients was 53.6±3.33 years (mean±standard error). The 63.2% of patients were imported for medical reasons, without surgery, the 13.2% after programmed surgery and the 23.5% after urgent operation. The patients were separated depending on the diagnosis at the import in five categories: injuries (usually after car accidents) with percentage 35%, patients for follow-up after urgent surgery with percentage 40%, vascular cerebral episodes with percentage 15%, cardiac failure with percentage 6.67% and craniocerebral injury in percentage 3.33%. The gravity of illness of patients was found with the APACHE II = 16.52±0.31 and with the SAPS II =46.37±0.73. The mean time of recording of patients was 18.6±2.86 days with minimal one (1) day of hospitalization and maximum sixty four (64).

In Table I is given the number of medical-nursing actions that were recorded at the duration of study.

The materials that were used were recorded and they were cost per action they are:

- Placement of central line: a flagon of anesthetic (xylocaine 2%), one pair sterilized gloves, a 5 ml syringe, a set central venous access simple or silver in proportion the needs of patient, two needles for syringe of size of 18 G and 25 G, a lancet No 11, flagon heparin, suture of skin (2-0 or 3-0) with the surgery tool, set that includes gauzes for dressing and transparent template, a sterilized top, a mask, a cap and a sterilized field.
- Placement of arterial line: an arterial catheter or intravenous catheter 18-20G, a Tesoplast (transparent sticker for stabilization of the catheter), solution of Normal Solid 500 ml, a pair sterilized gloves and flagon heparin.
- Change of tracheostomy tube: a pair sterilized gloves, a mask, two blades of surgical knife No 15 and No11, a flagon anesthetic (xylocaine 2%), a 5 ml syringe, set transcutaneous tracheostomy, sterilized gauzes, an aspiration catheter, suture silk 3-0 or 4-0 and two needles 18 G and 27 G.
- Bronchoaspiration: a box or bag of aspiration, a conjunctive pipe of aspiration, a sterilized catheter of aspiration with interrupted control, a pair sterilized gloves and 10 ml N / S 0.9%.
- Transport patient except I.C.U. for computed tomography: the only thing that was needed in every case was a bottle of oxygen.
- Reception of blood gases: a 2.5 or 5 ml syringe, a needle 20G, a syringe 1-2 ml and 5000 units heparin.
- Reception of samples for cultivation. For bronchial excretions needed an appliance of collection of excretions, a tube of aspiration and a pair sterilized gloves. For collection of urine were necessary a box for collecting the urine, a pair sterilized gloves and a 20 ml syringe.
- Pressure ulcer care: various types of covers in reference with the anatomic place of the pressure ulcer, one Seas orb soft filler, one purilon gel, sterilized gauzes, a pair sterilized gloves, ampoule of Normal Solid 10ml.
- Placement of venous catheter: an intravenous catheter and a cover (Opsite).
- Levin`s placemen: an 60 ml syringe, gel xylocaine 2%, an one-use box and a nasogastric tube.

- Placement of catheter Swan - Ganz: a pair sterilized gloves, a sterilized field, a 20 ml syringe, a set Swan - Ganz, set transcutaneous import and 3 way stop cock.

In the above action it could not be calculated the cost that was required for antiseptic solution because each time was used a concrete quantity and no all the packing, the no sterilized gloves and the gauzes that needed each time in order an action to be realized.

- The table I shows the number of medical-nursing actions, the "absolute" and the mean cost of an action. The absolute cost is the cost which was calculated with the materials that were mentioned before and the medium cost is the cost that was calculated with moreover materials that were used. In certain cases because lack of materials, were used less materials so that exists decreased cost.

The arterial line placement became from doctor (69.83%), while in percentage 3.17% participated also nurse. At the second case there was important statistical difference in the cost of the action (P<0.001). The placement of peripheral line was realized by doctor at 70%, while only in the 30% of cases was participated nurse. In this case did not exist statistically important difference in the cost (P=0.12). Moreover the bronchoaspirations executed at 28.15% from physiotherapist, 34.5% from nurses and 37.35% from doctor. There was not found statistically important difference in the cost of bronchoaspirations depending on who made them. The ill`s transport outside ICU for computed tomography, or for other diagnostic examinations became always in cooperation of doctor and nurse. The reception of sample (blood, sputum and urine) was realized at 85.47% from doctors, 11.96% from physiotherapists and 2.57% from doctor and nurse together. It was not observed important statistical difference (P=0.02). The pressure ulcers that were created and developed in the heavily suffering patients were cared exclusively by the nurses and at the duration of morning care. The fourth degree`s pressure ulcers that needed surgical care did not exist. The placement of central line, Levin`s catheter, the change of traheostomy tube and the placement of catheter Swan - Ganz became exclusively in cooperation of doctor and nurse.

As it is presented in Table II for the successful completion of concrete action they were needed more from one effort, while other times certain action was not completed ever. This is the main cause that the cost of this action is not fixed, but varies proportionally the additional materials that were used.

In urgent and threatening for patients' situations was not observed important statistical difference in the cost of interventionist processes that became.

In effort of combination the cost of an action and the gravity of illness of patient, which was calculated with Apache II score and Saps II score was not found important statistical difference. The sex and the age of patients did not play any role in the cost of recorded medical-nursing action.

Discussion

In the examination of literature for the exact cost of the déjà mentioned medical-nursing actions were not found results apart from the placement of central venous lines and the process of tracheostomy tube.

It has become international priority in our days the control of cost of care of health. The cost that is required for the function of an ICU amounts in the 28% of total cost of the hospital (Critical Care in the united states, 1992, American medical Association council, 1999).

The Halpern et al (2004) in study that made and lasted from 1985 to 2000, recorded that the total number of hospitals in the USA were decreased at 8.9% (from 6.032 in 5.494), while the hospitals that offer intensive treatment were decreased at 13.7% (from 4.150 in 3.581). The total number of beds in hospitals with ICU was decreased at 26.4% (from 889.600 in 654.400) in contrast to the beds in the ICU that were increased at 26.2% (from 69.300 in 87.400). The cost of function per day of beds of intensive treatment was increased at 126% (from 1.185$ in 2.674$). Even if the total cost of ICU in the USA was increased at 190.4% (19.1-55.5 billion dollars) the government owned budget for the sector of health was decreased at 5.4%.

The Warren et al (2004) in their study were focused in the education of doctors with a 24 months program in the process of import of central venous lines. In the study existed two teams of observation. In the one participated educated doctors with the particular seminar and in other not specialized. The result was that the specialized doctors had less complications in the placement of central venous lines and the cost was decreased from 1.573.000$ in 1.036.000$. This study proves that the specialization of professionals of health decreases the cost of health care 13. The cost related with the infections and the complications that were presented in the central venous catheters was between 3.700$ and 56.167$ (Dimick, 2001, Digiovine, 1999, Arnow, 1993).

The Kinsella et al (2008) calculated that the cost of placement of central venous line in the USA is 130.26$. In this sum has been calculated also the radiograph of thorax which is ordered in order to certify the correct place of catheter.

The Knudsen et al (1999) in the Durham of USA calculated the cost for 13 tracheostomies, which were calculated 1323.92$. The prices were calculated with prices that carried out in July 1999.

The Hakellis et al (1996) studied 30 patients who developed 45 ulcers. The mean cost of treatment, including long-term care and hospital costs, was $2,731 per ulcer; excluding hospital costs, the mean cost of treatment was $489 per ulcer. The mean cost of treatment per patient was $4,647; excluding hospital costs, the mean treatment cost was

$1,284 per patient. Eighty percent of the total cost of pressure ulcer treatment was generated by the 4% of patients who required hospitalization for their pressure ulcers.

Twenty six studies computed the cost per ulcer healed from $US910 to $US2179. For a hypothetical managed-care plan, the difference between the least and most cost-effective modalities was $US1.9 million for pressure ulcers. Observed differences were generally attributable to variances in outcomes and cost differences related to frequency of dressing changes. Pressure ulcer care took place in inpatient care settings. Physician visit frequencies were once every four weeks for pressure ulcers. Wound sizes ranged from 2.5cm2 to 5.6cm2 for pressure ulcers. All patients with pressure ulcers required pressure relief, nutritional support and incontinence management. Costs per patient healed were lowest for pressure ulcers with hydrocolloids and highest with saline gauze (this is a manpower issue). (Kerstein et al, 2001).

It is remarkable a study that was conducted in the home care setting to compare healing rates and costs of two different dressings for pressure ulcers: the gauze and tape dressing and the transparent moisture vapor permeable dressing (MVP). Each wound was randomly assigned to either a gauze dressing or a MVP dressing. Initial ulcer grade (Shea criteria) and measurements were determined at the start of treatment and weekly for an eight-week period. Photographs of the wound were taken at the beginning and end of treatment. The same protocol for irrigating the wound and relieving pressure was followed for both dressing groups. The mean (eight-week) labor and supply cost per ulcer using the MVP was $845, while that for gauze treatments was $1359, p less than 0.05 (Wilcoxon rank sum test). The cost difference for grade III ulcers was not significant in the two dressing groups. (Sebern, 1986)

A retrospective research design was used to describe the costs incurred by an 830-bed, long-term care facility to treat 81 pressure ulcers over a one-year period following implementation of a research-based, skin care protocol. The total cost for the study period was $30,079 with 73% of these expenditures attributable to nursing care. Mean cost of treatment was $3.74/pressure ulcer/day, which was a reduction from the $5.35/pressure ulcer/day cost prior to implementation of the skin care protocol. (Frantz et al, 1995).

The Alterescu (1981) examined in a three-month, retrospective study 75 patients with pressure ulcers. The average cost of treatment per day was $80.42. The average total variable cost per patient was $1,300.37. The average variable cost for treatment of a patient admitted for an ulcer was $3,746.03, while the average variable cost for treatment of patients admitted for other reasons was $621.02.

A European cost-effectiveness study has been conducted using published clinical trial data from multinational studies on chronic venous leg ulcers and pressure sores. Data relevant to UK chronic wound management practice have been extracted and are presented here. A total of 15 pressure sore studies involving 519 wounds, and 12 leg ulcer studies involving 843 ulcers were used in a pooled analysis. The study objectives included the calculation of comparative costs in pound sterling for three different treatment protocols for each wound type. The protocols have been adapted for UK clinical practice in both hospital and community settings and are based on primary dressings and nurse time costs, wound cleansing and debridement, the use of fillers, and compression as appropriate. The focus of the study has been the cost-effectiveness comparison (as measured by cost per healed wound) of two modern dressings - Granuflex(R) hydrocolloid dressing and Apligraf(R) skin replacement - and traditional gauze dressings in the treatment of venous leg ulcers and, in the case of pressure sores, comparison of Granuflex(R) Comfeel(R) hydrocolloid dressings and traditional saline gauze dressings. The choice of dressings studied was dictated by the available published literature. The construction of treatment protocols and assumptions on treatments otherwise missing from published papers has been achieved through the use of an expert panel. Results show Granuflex(R) to be 50% more cost-effective, at 422 pounds per healed wound, than Comfeel(R) (643 pounds) and 500% more so than saline gauze (2548 pounds) in the treatment of pressure sores. Granuflex(R) at 342 pounds was also more cost-effective than gauze (541 pounds) or Apligraf(R) (6741 pounds) in the treatment of venous leg ulcers. These data will provide a valuable adjunct to published clinical evidence, offering further information upon which cares can base their choice of wound dressing. (Harding et al, 2000).

Bennet et al (2004) estimated the annual cost of treating pressure ulcers in the UK. The cost of treating a pressure ulcer varies from Θ1,064 (Grade 1) to Θ10,551 (Grade 4). Costs increase with ulcer grade because the time to heal is longer and because the incidence of complications is higher in more severe cases. The total cost in the UK is Θ1.4–Θ2.1 billion annually (4% of total NHS expenditure). Most of this cost is nurse time. The cost per day for ulcer grade I was 38 pounds, for grade II 42 pounds and for grades III and IV 50 pounds.

Conclusions

The study showed the cost of most common medical-nursing actions in ICU. Also it was proved, via the data, that there is cross-correlation between the cost of an action and the specialization of the professionals of health. The no specialized physicians and nurses used more materials and they increased the cost that was required for an interventionist process.

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Table I: Cost medical-nursing actions

ACTION	SUM (N)	BLANK COST (EURO)	COST (EURO)
CENTRAL VENOUS LINE PLACEMENT	250	66.29	67.03±29.18
ARTERIAL LINE PLACEMENT	500	3.81	3.92±0.18
TRACHEOSTOMY TUBE`S CHANGE	150	16.56	17.23±0.33
BRONCHOASPIRATION	500	3.31	3.32±0.03
PATIENT TRANSPORTATION FOR CT	300	4.95	0.495±0
RECEIPT OF ARTERIAL BLOOD GASES	500	1.6	1.6±0
SPUTUM`S RECEIPTION	500	2.05	3.46±0.56
URINE`S RECEIPTION	500	0.8	1.26±0.43
PRESSURE ULCER CARE	500		8.48±0.28
PERIPHERAL VENOUS LINE PLACEMENT	300	1.62	1.71±0.28
LEVIN PLACEMENT	150	5.32	5.81±0.62
SWAN-GANZ CATHETER PLACEMENT	100	260.54	265.94±0.86

Table II

ACTION	N EFFORTS	EMERGENCY
CENTRAL VENOUS LINE PLACEMENT	2,6±0,29	2% YES
ARTERIAL LINE PLACEMENT	2,3±0,2	19% YES
TRACHEOSTOMY TUBE`S CHANGE	1,1±7,1	NO
BRONCHOASPIRATION	1±0,8	63.7% YES
BLOOD GASES	1,6±0,2	34% YES
RECEIPT OF SAMPLES	1,3±0,3	18.8% YES
PRESSURE ULCER CARE	1±0,1	NO
PERIPHERAL VENOUS LINE PLACEMENT	2±0.1	21.05% YES

Investigation of Nurses' Job Stress and Job Satisfaction. The Case of Hemodialysis Units - a Brief Literature Review

Marneras Christos [1], Albani Eleni [2]

1. R.N , MSc- PHC, Rio University Hospital, Patra.
2. R.N, MSc- PHC , Karamandanio Children's Hospital, Patra

Objective: The nursing staff has especially important roles and its contribution to the hospitals' efficiency is enormous. The job satisfaction of the nursing personnel has been in the last decades an object of study in the international literature. The goal of the present study was to review the existing literature on nurses' job satisfaction in the hemodialysis unit

Plan & Review methods: MEDLINE data base was searched using hemodialysis, nurse, job satisfaction, burn out'' as entry words .The existing literature in Greek language was also searched. Dissertations in Greek and books were searched as well.

Results: According to the literature, overall low job satisfaction is traced in nurses and hemodialysis units are no exception to this. The main reason, as it is concluded from international studies is the conditions for practicing nursing; these are related much less to the nature of the work, and much more to organizational issues which reflect the structure and the problems of the health systems.

Conclusions: The job satisfaction is a high priority issue that the nursing institutions around the world must deal with carefully. In regard to the Greek field, more surveys are required in order to examine in depth which factors and to what extent define the nurses' job satisfaction in our country.

Key words: job satisfaction, professional burn out, nurse, hemodialysis unit

I. Introduction

The term ''job satisfaction'' refers to viewing the workers' feelings both in relation to their job as a whole, and to some of its aspects. It is the degree to which the workers are both pleased (and therefore satisfied) or not pleased (and therefore dissatisfied). The job satisfaction has been examined in the last decades in many theoretical and empirical articles and publications, due to its economical, humanistic and generally theoretical interest. Close attention has been paid to the factors which form it and its effects.

Despite the rapid technological progress made in all fields, the human factor continues to be the most important one for an organization to achieve its goals. It is commonly accepted that each organization's human resources has great value and its contribution to accomplishing its objectives and purposes is decisive. (Shader 2001, Staiger, 2000)

The same applies for each country's health organizations and its health system in general. The nursing staff has especially important roles and its contribution to the hospitals' efficiency is enormous. However, in order for that staff to be effective it has to be chosen appropriately, placed in effective organizational structures and be satisfied both by their job in general, and each of its dimensions. (Lu 2005).

The shortage of nursing staff, the increase of the needs of the health care services in a rate larger than their staffing, and also the cost both in time and money to hire initially or replace the nursing personnel, create the need for the already existing personnel to practice their duties effectively and efficiently. (Buchan 1994, Buchan 2002)

The job satisfaction of the nursing personnel has been in the last decades an object of study in the international literature.

In the last decades, the interest for measuring the job satisfaction of the nursing staff is focused on the people working in hospitals, because the latter are places where people work hard and experience discontent (Charalampidou 1996), whereas in some of their specific departments, such as the intensive care units (ICU), the hemodialysis units and the emergency room, the personnel experience increased stress and there are increased needs for care provision. (Cooper C & Cartwright, 1994, Tselebis 2006, Li 2008). The extensive study of the factors related to the professional satisfaction of the nursing employees is expected to help improve the conditions for practicing their work and the provided quality of care.

I. a. Plan & review methods

In regard to method and data sources, a general approach was first made on the topic of job satisfaction.

MEDLINE data base was searched using "hemodialysis, nurse, job satisfaction, burn out" as entry words. Then internet addresses relevant to the topic were traced. The existing literature in Greek language was also searched. Dissertations in Greek and books were searched as well.

I. b. Results

One reference in Greek (1 dissertation) and one internet site in English were used. As for the rest of English literature, 44 articles, published between 1978 and 2008 were used. According to the literature, overall low job satisfaction is traced in nurses and hemodialysis units are no exception to this. The main reason, as it is concluded from various researches in our country and other countries, is the conditions for practicing nursing; these are related much less to the nature of the work, and much more to organizational issues which reflect the structure and the problems of the health systems.

2. Factors affecting job satisfaction in the registered nurse

The factors that contribute to the job satisfaction are divided in three large categories:

a) the individual/personal
b) the organizational and
c) the work ones.

In a meta- analysis of 48 studies regarding the nursing staff's job satisfaction, Blegen (1987) defined 4 personal and 9 organizational factors contributing to job satisfaction. The personal factors include age, education/training, professionalism and experience. In regard to the organizational factors the stress had a negative correlation, whereas autonomy/independence, work acknowledgement, the communication with the coworkers and the sense of justice presented a positive correlation with job satisfaction.

The work factors affecting the nursing staff's job satisfaction are the work load (patients-health staff ratio), the composition of the personnel and the critical condition of the patients. High critical patient condition in combination with the changes in the structure of health work is related unfavorably to the work load and the quality of care. In addition, the composition of the nursing personnel (a small graduate nurses – assistant nurses ratio) and the increased patients-nurses ratio contribute significantly to the nurses' discontent, the clinical results and the quality of care (Best and Thurston, 2004).

The importance of the factors which contribute to the nurses' job satisfaction varies. Even though the nurses' fee continues to be a component in the measurable scales of job satisfaction, it contributes very little to that, according to Blegen & Mueller (1987) and Cavanagh (1990). After the end of World War II Mayo (1945) claimed that the determinative factor on job satisfaction lies in the work group interaction, emphasizing on good leadership and the pleasant intrapersonal relationships in the workplace. The administrative methods and leadership both on hospital level and on hospital wing level affect the job satisfaction of the nursing staff, as well as their behavior which can be expressed through health complaints, absences and other indicators of good or poor status (Boumans & Landerweerd 1993, McNeese Smith 1993, Morrison et al. 1997). Where there is good communication and the nurses enjoy a nice environment that supports them, and at the same time they work well together, then the job satisfaction and innovation are in fact enforced (Adams & Bond, 1995). In the opposite case, the nurses experience high levels of stress which lead to depression, hostility, negative emotions and low job satisfaction and also reduced performance by the organization and the hospital wing (Wheeler & Riding, 1994).

Additionally, very important is the nurses' independence/autonomy and the capability to take on initiatives. In fact, the greater the freedom for decisions is in clinical terms, the greater the nurses' job satisfaction is. Moreover, the work load has a large (negative) correlation to job satisfaction (Aiken et al. 2002) since it is also related negatively to autonomy and low quality of care.

According to a research by the Health Care Advisory Board (2001, it has been pointed out that the nurses' turnover rate ranges internationally on a 15% percentage. Similarly, Khowaja & Nensey (1999) reported that the turnover rate in The Aga Khan University Hospital, Karachi, Pakistan were 33.6% in 1996-1997. It appears that what stands is that the smaller the cohesion is in the nursing group, and the larger the stress is, the smaller the job satisfaction is and the larger the turnover risk is.

Peterson (2001) reported that there are a number of factors that influence the lack of nurses such as hiring, keeping the staff through motives, etc. The improvement of the job satisfaction results not only in the decrease of turnovers/departures but also in the improvement of the patient's satisfaction. Aiken et al. (2002) reported that the nurses' job satisfaction and the professional exhaustion are responsible for the lack of staff and also the quality of the nursing care. That means that a significant amount of dissatisfied nurses is a decisive factor in the patients' dissatisfaction.

Along with the job dissatisfaction, which is expressed mainly through work turnover, the nurses experience the phenomenon of the "virtual absence" which refers to them being physically present and mentally and psychologically absent mainly due to a lack of motive.

The lack in numbers of nursing staff is also a problem in other countries as well (Buchan, 1994). That lack is combined with various factors which also include demographic changes. Therefore, along with the aging population, the number of active nurses is decreased and the number of people in need of hospital care is increased, because the number of older people suffering from chronic illnesses is increased. Other factors include low payment and poor working conditions, which discourage young people from choosing the nursing profession. (Buchan, 1994).

On an organizational level, a significant factor contributing to the lack of nurses is turnovers, which are consequently enhanced by the job absence of the staff. Furthermore, the high percentage of turnover and absences result in a high cost and low levels of quality of the provided nursing care and therefore poor productivity and efficiency (Severinson, 2001). In addition, in that way the pressure on the remaining employees is increased which results in the professional exhaustion and the further amplification of early retirement and resignation phenomenon (Borda, Norman, 1997).

2. a.Organizational limitations

There are some situations inside the workplace which are directly involved in the workers' performance, and consequently are affecting it. These are characterized as "organizational limitations". These limitations come from various work components, including the coworkers and the natural working environment, as we can see below. Peters, O' Connor & Gordon (1978) developed a classification of the limitations in the 8 below areas:

1. Necessary information in relation to the work
2. Working tools and equipment
3. Material and supplies
4. Financial support
5. Preparation for executing the work (job position)
6. Time availability
7. Working environment
8. Help from third parties

2. b.Family-Job Conflict

The family-job conflict arises when the demands by the family and the demands by the job get in each other's way. The problem concerns everyone who has a family but mostly the families with both members working and that have children and also one-parent families. Nevertheless, the conflict is more likely when the children are sick and when the school activities demand parent participation, whereas the same conflict affects differently women and men, because women deal mainly with raising the children.

The job-family conflict has been found to be related to job satisfaction. Specifically, various researchers report that the workers who experience high levels of conflict report low levels of job satisfaction. According to Parasuraman, Grenhaus & Granrose (1992), in men (but not in women), the conflict was particularly related to job satisfaction. In regards to men, the conflict was correlated negatively (correlation coefficient) to job satisfaction by -0.40 whereas that correlation was only -0.02 for working women.

2. c. Fees

Rice, Phillips & McFarlin (1990) reported a positive correlation between the fee level and the job satisfaction in a sample of mental health professionals who had the same job description. The employees most likely compare their fee with that of the rest and are very dissatisfied if they find out differences among people with the same job. More important effect than the payroll differences has the process from which the fees come from. If these are fair, even if they lead to payroll differences, they have a larger effect on job satisfaction than the fee itself (Rice R.W., Phillips S.M. & McFarlin)

2. d.Work stress

The stressful situations created in the workplace combined with personal life factors, increase our total psychological load, and also the risk of heart conditions or abuses. The professional stress is often an object of study, sine it is an important factor of every person's work. Stress can affect the mental and physical health of the person thus decreasing his performance in the workplace.

The main factors that cause stress to nurses are the regular shifts, the role conflicts, the constant communication with a variety of people, the work load, and the heaviness of the cases, as well as, depending on their work field, dealing with death on a daily basis. Moreover, they have to deal with family issues due to their job, thus experiencing more stress, which is then transferred to their workplace (Cooper & Cartwright 1994, Brokalaki 2001, Kluger 2008).

2. e.Work load

The work load is defined as the work demands for the workers. It has been found to be correlated negatively to job satisfaction. Karasek, Gardell & Lindell (1987) found that work load was negatively correlated to job satisfaction and positively to heart conditions. In fact, special tools have been created (questionnaires to measure work load). (Karasek, 2007)

2. f.Working hours

The most commonly applied working hours are 8 hours a day for 5 days a week. However, due to organizational needs for more work non stable working hours have been adopted, such as flexible hours, long-hour shifts, night shifts and part time hours (Barton, 1994). In the health field the long-hour shifts, the rotating working hours and the night shifts are common.

The hospitals belong to organizations functioning 24 hours a day. The term long-hour shifts refers to working beyond 8 hours a day. The necessity, on many cases, for 16 hours work in one day by the nurses is a common and stressful issue for all nurses, and especially the ones who have a family (West et al. 2007, Lee et al. 2004). Therefore, two or three shifts are required in order to cover the 24 hours of the day. Many workers are also working rotating hours on morning, evening and night shifts. The larger issue that arises from the rotating hours is the disturbance in the cycle of sleep which disturbs the circadian/diurnal rhythm and therefore brings change both on the body temperature and the hormonal levels of the blood. All of these can lead to health problems (Viswanathan, 2007).

2. g. Professional burn out

As it is already shown by preexisting research, the nurses have a large share of professional burn out among other professionals, which is combined with the increased work load and duties. Most nurses usually start out expecting

poor working conditions: long queues of waiting patients, time pressure, dealing daily with pain and death, which result in not having a positive stance, which eventually amplifies the pressure. On the contrary, the sense of offering, the appreciation to others, the reciprocity and reward relationships, the challenge and variety relieve the pressure on their work (Hart & Rotem 1995, Stapleton et al., 2007).

3. Nurses' job satisfaction in the hemodialysis unit

The hemodialysis unit is not an exception to the issues related to the nurses' job satisfaction. Even though there are not many emergency cases, the chronic character of the condition and the profile of patients with heavy conditions, the risk of infectious deceases and the job routine are distinctive features of the field that affect job satisfaction (Bryson 2005, Sabo 2006). The lack of nurses, the work load, the stressful working environment, and the demands of the nursing care itself, which has to do with elder people and on hemodialysis, are predictors-indicators of the job satisfaction (Murphy 2004, Gardner et al., 2007, Cowin & Jacobson 2003).

It has been found that the nurses' clinical supervision and guidance can increase their job satisfaction and contribute, as possible, to the full completion of their work (Bryson 2005). Both the external factors and the nature of their work, contribute to the increased stress levels of the nurses in the hemodialysis unit along with the nurses' defense mechanisms and the relationships among the nurses (Murphy 2004).Nursing staff rates the business of the unit as the maximum stress and states that they felt this high level of stress on a daily basis. The most notable stressor for the staff related to patient behaviour. (Dermody & Bennett , 2008).In addition, on any case that requires high level of team work, the relationships between the members of the team play a very important role, both in achieving the ultimate goal, and satisfying every member of the team. Moreover, the positive feedback of nurses, from patients and colleagues contributes to the improvement of the provided care (Olthuis et al., 2007). Survey data shows that most of the personnel does not receive counselling about uncertainties, expectations does not correspond to reality and there is distrust and scarcity of involvement. These elements appear to cause irritation and dissatisfaction and if not resolved are responsible, together with technical and environmental factors, for the serious burn-out syndrome in the personnel of dialysis units. (Di Iorio et al, 2008)

Especially for Greece, less than 50% of the nurses in the hemodialysis unit report that they are satisfied with their job, even though the rates of their original expectations on job satisfaction were high, reaching 75%. In the case of this research, we can see that the shortage in nursing personnel, the increased responsibilities, and also the risk of infections, due to the heavy condition of the patients, as well as the occasional death of the patient were the most important stressful factors (Brokalaki, 2001).

The so called secondary traumatic stress, due to the heaviness of the decease often exhausts the nurses.The nurses who were about to quit evaluated the working environment as being very negative (Gardner, 2007). The autonomy and the undertaking of initiatives in the workplace, and also the appropriate professional relationships are main components in improving the working environment in every nursing field (Argentero, 2008). A holistic approach of the working environment is necessary in order to increase the nurses' job satisfaction and consequently their professional performance (Weber, 2007).

Conclusion

The job satisfaction is a parameter with a great interest for modern health systems. It is related to the nurses' professional burn out syndrome and the mobility in the nursing profession. The low job satisfaction is partly responsible for the lack of nurses, which is a worldwide phenomenon. The main reason, as it is concluded from various researches in our country and other countries, is the conditions for practicing nursing; these are related much less to the nature of the work, and much more to organizational issues which reflect the structure and the problems of the health systems.

The job satisfaction is a high priority issue that the nursing institutions around the world must deal with carefully. If they don't, the turnover rate will continue to grow resulting in the even greater lack of nursing staff. In regard to the Greek field, more surveys are required in order to examine in depth which factors and to what extent define the nurses' job satisfaction in our country.

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Critical Review
Transcultural Nursing as a Theoretical Framework in Support of Disaster Nursing

Theodoros Persiridis
Registered Nurse, MSc Community Nursing, General Hospital of Thessaloniki "Hippocratio"
Paraskevi Apostolara
Registed Nurse, MSc Community Nursing, Doctoral Candidate National Kapodistrian University of Athens, General Children's Hospital "Paidon" Pendelis
Community Nursing Laboratory U.O.A.: Managing Director, Dr. A. Kalokairinou

Key words: Nursing Theories, Nursing Models, Disaster Nursing, Cross-cultural nursing, Cultural Competence.

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Intoduction: Today's nurses, in the framework of international humanitarian missions, are called on to provide care for individuals, families, and people of different cultural backgrounds. In order to respond effectively in this very important role, they are required to have knowledge of nursing theories and models emanating mainly from the fields of Disaster Nursing and Transcultural Nursing, which when rightly combined can be applied to wide scale disasters.

Data Sources: Sources of information include Electronic Libraries and Databases such as: Medline, Cinahl and Google.

Bibliography Review: A number of nursing theories and models that can have relevance for Disaster Nursing emerged from the bibliographic review. Models that have been formed specifically for the guidance of nurses so that they are capable of comprehending the content and the significance of Disaster Nursing, and models that describe significances different from those of Disaster Nursing which can be used in real situations if they are approached from the appropriate perspective. Important also are the models that refer to the development of cultural competence in nurses, such as the comprehension of culture of the population that has been affected and has requested humanitarian assistance.

Conclusions: Undeniably, in a multinational - multicultural environment there is an intense need for cultural competence to deal properly with mass causality incidences. The combination of models and theories is the better choice in disaster nursing so that the objective is achieved as well as the desirable result. After the application of the selected model is applied in this particular nursing situation, the evaluation will determine whether ultimately this model was indeed the correct choice.

Introduction

Globalization is a given. Today's nurses more than ever are being called upon to provide care to communities, to families, and to scores of people who have been injured in some catastrophic events, populations moving because of being forced from their homeland, or a confrontational situation, or that some kind of disaster has forced them to move to find food and shelter. So that nurses respond effectively in this role, they are required to have knowledge and skills that will allow them to provide care to individuals of different cultural origins as well as being able to collaborate with other professionals from different cultures within the framework of international humanitarian (Weiner et al, 2005). These abilities no only facilitate nurses in the providing of care to the injured, but also ensure in and of itself a more efficient collaboration at the international level.

With the birth of Nursing, a need was created for development of theories and models aimed at describing and comprehending phenomena in the field of individual care. Since the time of Florence Nightingale, when the first complete nursing theory was formulated, and even until today it has been the basis that has shaped important theories and given impetus for the development of Nursing Science in a wider respect (Apostolopoulou, 1999). More specifically in Disaster Nursing certain models have been developed aimed at guiding nurses through the process of comprehending the philosophy of Disaster Nursing.

The present work constitutes a bibliographic review of nursing theories and models emanating mainly from the spaces of Disaster Nursing and Trans-cultural Nursing, which can be implemented in wide scale disasters. Furthermore, an effort is being made here so that a universality of theories in all clinical nursing sectors as well as their interrelationship may emerge.

Bibliography Review

The Nursing Models must encompass all those subject variables at hand in addition to including valuable instructions for guidance in a real nursing situation (Meleis, 2005). There are a number of theories and Nursing Models that can find a place in Disaster Nursing. Models that have been formed specifically for the guidance of nurses so that they are capable of comprehending the content and the significances of Disaster Nursing and so that they can appreciate a disaster situation and provide care. Certain other models such as the Model of Providing Emergency Care by Air Transported Team (CCATT Model), have come about from the Medicaid sector of the armed forces but can also apply to the management of non military crises (Sariego, 2006). Nevertheless, models that describe relationships and significances that differ from those of Disaster Nursing can be used in real situations if they are approached from the correct perspective. The models that refer to the development of the cultural competence of nurses are of great value so as to cover the need for comprehension of: culture, cultural norms, values and convictions of the affected population requesting humanitarian assistance.

Florence Nightingale's *The Theory of Environment*

The theory of Environment of Nightingale came about from her experience in the Crimean war (Selanders, 1995). She attributes the illness and the death of soldiers to the unsanitary environmental circumstances, which also can certainly apply today in terms of mass causality incidences. It focused on the environment stressing that "clean air, potable water, a good sewage system, cleanliness and light can transform an unsanitary environment to a healthy one" and that there is a need that certain variables be modified in this, so that individuals recover (Apostolopoulou, 1999). In catastrophic events the environment contains a plethora of dangers such as a lack of: potable water, food, sewage disposal and poses living under intensely stressful conditions that can harm the victims and the nurses. Disaster Nursing focuses on the recognition of such dangers and develops planning and interventions for their elimination.

***The Disaster Management Nursing Model* by A.Jennings**

The Disaster Management Nursing Model by Jennings (2004) was created in order to help the Community nurses in the planning and management of disasters and incorporates four stages that are connected to time sequences. The first stage (Before the Disaster Occurs) concerns in the estimate of risks and availability of community resources. The second stage (Disaster Incident) is the point in time when the disaster happens and refers to the development of the nursing role as tutor, instructor and administrator of the situation. In the third stage (After Disaster Incident) there is an effort to assess the planning regarding the care that was dispensed. The impossible and possible points of planning are located; the weaknesses of planning are recorded in a scientific way in the bibliography and a new effort is being made to re-design the model. Leading to the fourth stage (Consequence for the Population /Customer) Jennings stresses that the actions that took place in the previous stages will be able to produce a positive outcome in the health condition of the population. Through indicators such as the reduction of mortality, the reduction of cost of care and also by the improvement of the level of health and nursing knowledge concerning disaster issues, there will be an effort made to record the outcome of planning with measurable indicators.

The Disaster Nursing Timeline by T.Veenema

Another model was developed by Veenema, through which the idea of "continuous" planning for disasters emerges. The model includes three time moments that are interrelated. Phase I is the moment before the disaster and contains the planning, the preparation, the prevention and the warning signs. Phase II spans from the zero hour when the beginning of disaster is comprehended until 72 hours after and includes the response, the emergency management of the crisis and the normalization of the situation. And Phase III, the third day after the disaster: re-establishment, rehabilitation, restructuration and evaluation efforts begin (Veenema, 2007).

***Cultural Care Diversity & Universality: A Theory of Nursing* by M. Leininger**

From an examination of Transcultural Nursing, M. Leininger first formulated the theory for the Cultural Diversity and Universality of Care supplemented by the Sunrise Model as an example for the application of the theory and later by the Ethno Nursing Research Method as a research method that serves the objectives of the theory (Leininger, 2002). The Transcultural Theory of Leininger can also be applied to Disaster Nursing, as it has a complete guide on the study

and the analysis of variables in the various cultures. The central purpose of her theory is to be discovered, to be argued, to be interpreted, and the multiple factors that they influence to be explained. That these things elucidate care from a holistic point of view will contribute to the health and the prosperity of people (Leininger, 1997).

Case Study: Application of a Trans-cultural Nursing Theory in Providing Health Care in Mass Casualty Incidents.

G.M. is clinical infectious disease registered nurse and works in the Hellenic N.H.S. In the text that follows it mentions her experience, in almost complete devastation, that would take place in the holds of a slave ship after fire had burst out. G.M. was a member in the unit of an interdisciplinary team of scientists that the Greek Government had sent.

"Beginning of November 2001: Aground in Zakynthos, called the "boat of shame" by the press". Seven hundred fifty (750) immigrants are transported from the slave trader in sordid hygiene and living conditions. Simultaneously, with the Doctors without Borders, the Doctors of World, the Greek Red Cross and others from non governmental organizations the Hellenic Center for Infectious Disease Control (KEELPNO) sends a unit initially made up of nine individuals, of which, eight were doctors and one an infectious disease nurse. A team of sociologists and psychologists follow later. In the mission, I participate as the nurse of the unit. Most of the male immigrants have been transported to a closed gym, while women, children, and families are in hotel space.

The team tries to record the medical and pharmaceutical needs. Planning follows the subsequent course:

- Populations are not uniform. A common language of communication should be found. From the team 5 speak English, 3 French, 1 German. We put up signs with the introductive question in each language and we wait for whoever of the refugees will respond. After someone responds, we learn their country of origin and we make them head of their team of compatriots. The doctors are assigned to three rough surgeries (3, 2, 2), while one of the doctors and a nurse carry out the initial estimate of needs and send the patients to the appropriate surgery according to the translator's language. Thus begins a common code of communication.
- Serious general medical problems must be faced immediately. Contagious diseases, which are the responsibility of the unit, and their spreading must be anticipated and dealt with. Directives are given to the refugees-translator to announce the symptoms on the basis that whoever has the symptoms must take precedence. Doctor and nurse go around in the space and check clinical symptoms and macroscopic points become an education for the immigrants concerning simple rules of cleanliness and hygiene while necessary sanitation materials are dispersed.
- Blood examinations and the issuing of medicines are necessary. The population is ethnologically and religiously non-homogeneous. The statistical analysis later showed that the immigrants were Kurds from Iran and Iraq, as well as Palestinians, Indians, Pakistani, and residents of Eritrea. The greater part of population consisted of Sunni Muslim women. The time period happened to coincide with the celebration of Ramadan. Which of the existing nursing theories was most suitable to be implemented? The theory of Madeleine Leininger could be applied. Her central point being that the culture promotes the decisions. Thus, any hygiene decision had to pass through cross-cultural procedures. Blood examinations were transported after sunset, while at the same time there was an effort being made to have as many medicines as possible transported in a timely manner. The respect of morals and customs of both the refugees shown by the team led to the acceptance and the respect of sanitation rules, while just before the unit's departure, there was a touching celebration that had been organized by the immigrants.

***A Culturally Competent Model of Care* by Campinha-Bacote**

In 1991 Campinha-Bacote, in the "Model for Cultural Competence" defines cultural competence as "the process, in which health care professionals continuously attempt to acquire the competence to work effectively within the cultural framework of the individual, family or community that comes from a different cultural/national background as a basis" (Campinha-Bacote, 1998). It is a revised model (1998) consisting of five constructs (cultural awareness, cultural knowledge, cultural skills, cultural conflicts and cultural desires) with the interdependent relation of one with the other, which make up the strengthening of cultural competence electing it as the central purport and also offering a valuable theoretical framework to the subject of Disaster Nursing (Campinha-Bacote, 1999). The model requires the health care providers via what is not a simple process, but a dynamic journey- which in 2002 was symbolically represented as a volcano – to consider themselves as "becoming" culturally competent as opposed to "already being" cultural competent (Campinha-Bacote, 2002, Campinha-Bacote, 2007).

***The PTT Model of Developing Cultural Competence* by Papadopoulos, Tilki, and Taylor**

Finally, also I. Papadopoulos, M. Tilki, and G. Taylor in the PTT Model that they formulated in 1994 set cultural competence to be of central significance that is to say that the capacity to provide effective health care takes into account cultural beliefs , behaviors, needs of a customer, and at the same time recommends a procedure and a

result. The result comes from the synthesis of knowledge and skills which the nurse acquires, and furthermore this experience evolves and enriches his personal life during his professional career (Papadopoulos, 2003). This undeniably constitutes a challenge for the health care professional when his education has been based on Western philosophy and culture. Ignoring any such matters in Disaster Nursing is sure to end in failing to meet the objective, which is none other than the providing of quality care. If a health care professional responds in a culturally sensitive way, and a way that is specifically targeted to the community, this shows that he respects the culture of the people he has been called on the provide care services to. The underpinning value that differentiates this model is the emphasis that it places on human rights. (Papadopoulos, 2005). According to this model, the process of acquiring cultural competence includes four stages. The first stage of the model is cultural awareness (personal examination of our values and convictions); second is cultural knowledge (significant contact with persons from different ethnic groups in order to strengthen knowledge about their beliefs and behavior); the third stage is cultural sensitivity (the way in which professionals perceive the individuals that they are attending). The achievement of the fourth stage (cultural competence) requires the synthesis and the implementation of the three previous stages, that is to say awareness, knowledge, and sensitivity (Papadopoulos, 2003). And finally, accordingly to the model, cultural competencies can be both specific and general. Specific Cultural Competencies refer to knowledge and skills that have to do with a certain cultural group while general cultural competencies are set as the acquisition of knowledge and skills that are applicable to the all cultural groups. So as to allow a Disaster Nurse to cope in today's role and be considered culturally competent, it is deemed essential to develop both types of competencies in that they share a dynamic and spiral process. (Papadopoulos and Gerrish, 1999, Papadopoulos and Lees, 2002).

Conclusions

The permanently alternating content of wide scale disasters on a world scale sparks both continuous research and the improvement of nursing care at an international level. Wide scale disasters constitute henceforth complex situations of emergency care, influencing human existence in sectors such as health and well-being, culture and spirituality, and also economic prosperity. Nursing models and theories contribute more to the esteem of the needs of a customer - patient and the pursuit of appropriate care despite the effort to explain some nursing phenomenon. At times criticisms have been accepted with the reasoning that by limiting the critical thought of a nurse, this would to trap the nurse within a rigid framework. Let us note that Nursing Models were created in order to give added perspectives and dimensions to nursing, that is, changing from the customarily accepted care in to evidence based nursing (Fawcett, 1992).

Dilemma can result from such a large reservoir of theories, more specifically for each point of the theory. However, it would be hard to find anyone that has not been confronted with this dilemma over each and every nursing theory that can be applied in a period of crisis after some disastrous event. Undeniably, in a multinational - multicultural environment there is an intense need for development of cultural competence in the confrontation of disasters that demand international assistance. A combination of models and theories is possibly the better choice in Disaster Nursing so that the desired result and objective are achieved.

The evaluation following the implementation of a model that was selected and applied to a particular nursing situation is the one that will determine if finally it was the correct choice. Through this process the two-way relationship that exists between a conceptual model and Clinical Nursing also emerges. Models ought to be designed so as to give guidance and transform Nursing Practice while concurrently those models must be improved and readjusted by way of Clinical Nursing needs (Speedy, 1989).

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Postal address: **Vas. Sofias 47, 10676, Athens, Greece**
Telephone number: **+30 210 3648 044**
Fax: **+30 210 3617 859**

Guidelines for authors are available at **www.nursingjournal.gr** or can be sent on request

GUIDELINES FOR AUTHORS

The *Hellenic Journal of Nursing Science* is the official journal of the Hellenic Regulatory Body of Nurses. It is a peer-reviewed, multidisciplinary journal that is intended to promote Nursing Science in Greece.

The *Hellenic Journal of Nursing Science* provides a forum for publication of scholarly papers that report research findings, research-based reviews, discussion papers and commentaries which are of interest to an international readership of practitioners, educators, administrators and researchers in all areas of nursing, midwifery and the caring sciences. Papers should highlight their contribution to the theoretical or knowledge base of the discipline.

Papers should have an international dimension and those which focus on a single country should identify how the material presented might be relevant to a wider audience.

Selection of papers for publication is based on their contribution to knowledge (including methodological development) and their importance to contemporary nursing, and relevance to midwifery and related professions. Papers should be submitted in English.

TYPES OF PAPERS CONSIDERED FOR PUBLICATION

The HJNS publishes papers under three main categories:

Editorials and Perspectives

Generally editorials are commissioned but authors, who have ideas for editorials which address issues of substantive concern to the discipline which can be linked to material published in the journal, should contact the Editor in Chief. Editorials are typically short (200 words maximum) although there are no fixed limits.

Original Articles – Research Papers

- Full papers reporting original research can be a maximum of 5000 words in length, although shorter papers are preferred.

- Protocols of controlled intervention studies and systematic reviews of up to 2,500 words. Authors should make a case for publication of the protocol in which they should state the trial registration number (if any) and when the findings are due to be reported.

Reviews and Short Reports (up to 2000 words)

- **Reviews, including:**
  - systematic reviews, which address focussed practice questions;
  - literature reviews, which provide a thorough analysis of the literature on a broad topic;
  - policy reviews, i.e. reviews of published literature and policy documents which inform nursing practice, the organisation of nursing services, or the education and preparation of nurses and/or midwives.

- **Short Reports** and 5 references, reporting the development research instruments and measuring scales and including a copy of the relevant instrument so it can be published in full. If authors wish to retain copyright - they can do this by simply marking it as copyright to them / their institution and saying it is reproduced with permission.

- **Book Review Articles**, i.e. papers which provide a critical discussion of an aspect of nursing with reference to two or more recent publications on a similar topic. The Editor-in-Chief welcomes proposals for book review articles (of up to 1000 words), and may also commission them.

SUBMISSION PROCEDURE

Authors should submit manuscripts to the journal electronically via the journal's email: hjns@otenet.gr. All correspondence, including notification of the Editor's decision and requests for revisions, will be by e-mail. Any author who is unable to submit electronic copies for good reason should contact the editorial office in the first instance for advice (contact details at www.nursingjournal.gr).

Submission of a paper implies that it has not been published previously, that it is not under consideration for publication elsewhere, and that if accepted it will not be published elsewhere, in English or in any other language, without the written consent of the publisher.

Review Process

All papers accepted for publication undergo a double blind peer review by at least two reviewers. Initially all papers are assessed by an editorial committee. Papers which are unlikely to be published, for example because their novel contribution is insufficient or the relevance to the discipline is unclear, may be rejected at this point in order to avoid delays to authors who may wish to seek publication elsewhere. Occasionally a paper will be returned to the author with requests for revisions at this point in order to assist the editors in deciding whether or not send it out for review. Authors can expect a decision on this stage of the review process within 2-3 weeks of submission. Manuscripts going forward to the review process are double-blind peer reviewed by members of an international expert panel. We aim to complete this process within 8 weeks of the decision to review although occasionally delays do happen and authors should allow at least 12 weeks before contacting the journal. The decision with regard to publication is based on the reviews and editorial assessment of priority for publication. The Editor-in-Chief reserves the right to the final decision regarding acceptance.

PREPARATION OF THE MANUSCRIPT

General instructions: Submitted papers should be relevant to an international audience and authors should not assume knowledge of national practices, policies, and legislation. They must be typewritten, double-spaced with wide margins on one side of white paper. Authors should not identify themselves or their institutions in the manuscript other than on the title page, which is removed before review. For hard copy good quality printouts with a font size of 12 pt are required. Authors should consult a recent issue of the journal for style if possible. Since the journal is distributed all over the world, and as English is a second language for many readers, authors are requested to write in plain English and use terminology which is internationally acceptable. The Editor-in-Chief reserves the right to adjust the style to ensure certain standards of uniformity.

Paper length: All papers are subject to review and authors are urged to be brief; long papers with many tables and figures may require shortening if they are to be accepted for publication. There is no specific word limit, however, (except in the categories listed above) papers may be up to 5000 words in length, plus tables, figures, and references. Ordinarily there should be no appendices although in the case of papers reporting tool development or the use of novel questionnaires it is usual to include a copy of the tool as an appendix. Authors of any papers, which do not comply with these restrictions, should make preliminary enquiry to the Editor-in-Chief before submitting the manuscript.

ORGANISATION OF THE MANUSCRIPT

Organise the manuscript in the following order: title of paper, title page, acknowledgments, abstract and key words, text, references, tables, figure legends, figures, appendix (font: Times New Roman size 12, 1,5 line space). Please number the pages of your manuscript.

Title: The title of a paper should indicate its subject and where relevant the population, clinical problem and its method of enquiry.

If the paper is a review, this should be indicated in the title; e.g. 'Nurse led units: a systematic review', 'Patient empowerment: a literature review', 'Phenomenology for nursing research: a methodological review', 'UK guidelines for treatment of depression: a policy review'.

For research papers the research design adopted should be indicated; e.g. 'The effectiveness of nurse led units: a randomised controlled trial', 'Coping with chronic pain: an ethnography', 'Communication barriers perceived by older patients and by nurses: a questionnaire survey', 'The psychometric properties of the Pain and Stress Scale: scale development'.

Title page: Include full name, job title, highest academic and professional qualification and institution for each

author. Indicate an e-mail address for the corresponding author.

Acknowledgment: Limit acknowledgment to key contributors.

Abstract: Prepare a structured abstract. Abstracts should be less than 250 words, and should not include references or abbreviations.

Abstracts of research papers should adopt the following headings, where possible: Background; Objectives; Design; Settings (do not specify actual centres, but give the number and types of centre and geographical location if important); Participants (details of how selected, inclusion and exclusion criteria, numbers entering and leaving the study, relevant clinical and demographic characteristics); Methods; Results, report main outcome(s) / findings including (where relevant) levels of statistical significance and confidence intervals; and Conclusions, which should relate to study aims and hypotheses.

Abstracts for reviews should provide a summary under the following headings, where possible: Objectives, Design, Data sources, Review methods, Results, Conclusions.

Abstracts for book review articles should provide a concise summary of the line of argument pursued and conclusions. A structured format is not essential.

Key Words: Provide between two and six key words in alphabetical order, which accurately identify the paper's subject, purpose, method and focus. Use the Medical Subject Headings (MeSH®) thesaurus or Cumulative Index to Nursing and Allied Health (CINAHL) headings where possible.

Text: in the text's introduction it is required for all papers to have a reference to what is already known about the topic and to what the paper adds to nursing science.

Tables/Figures: Tables and figures are printed only when they express more than can be done by words in the same amount of space. Indicate suggested placement of tables or figures in the text. Tables should be numbered consecutively and given a suitable caption and each table typed on a separate sheet.

Abbreviations: Avoid abbreviations wherever possible. Any abbreviations which the authors intend to use should be written out in full and followed by the letters in brackets the first time they appear, thereafter only the letters without brackets should be used.

Statistics: Standard methods of presenting statistical material should be used. Where methods used are not widely recognised explanation and full reference to widely accessible sources must be given.

I**nformed consent:** Where applicable authors should confirm that informed consent was obtained from human subjects and that ethical clearance was obtained from the appropriate authority.

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Questionnaires: Questionnaires and assessment schedules used in research studies that are not established and well known should be included as an appendix.

References: All publications cited in the text should be presented in a list of references following the text of the manuscript. In the text refer to the author's name (without initials) and year of publication (e.g. "Since Peterson (1993) has shown that?" or "This finding is supported by results obtained later (Kramer, 1994)"). For three or more authors use the first author followed by "et al.", in the text. The list of references should be arranged alphabetically by authors' names. The manuscript should be carefully checked to ensure that the spelling of authors' names and dates are exactly the same in the text as in the reference list. References should be given in the following form:

Arthur, D., Sohng, K.Y., Noh, C.H., Kim, S., 1998. The professional self concept of Korean hospital nurses. International Journal of Nursing Studies 35 (3), 155-162.

Barnes, B., Bloor, D., 1982. Relativism, rationalism and the sociology of knowledge. In: Hollis, M., Lukes, S. (Eds.), Rationality and Relativism. Basil Blackwell, Oxford, pp. 21-47.

Dijkstra, A., Buist, G., Dassen, Th.W.N., 1996. Nursing-care dependency: development and psychometric testing of the NCD-scale for demented and mentally handicapped in-patients. In: Proceedings of the 8th Biennial Conference of the WENR, Research on Nursing throughout the Lifespan, vol. I. Ekblad & Co, Vastervik, pp. 117-126.

Gower, B., 1997. Scientific method: an historical and philosophical introduction. Routledge, London.

REVISED ARTICLES

If you are re-submitting a paper that has been revised please include a covering email or letter which provides a detailed account of how you have responded to editorial and peer review comments and other guidance you may have received. Where suggestions have not been followed you must explain and justify your decision. This should include specific reference by section / page / paragraph number to alterations in the text.

AUTHOR SERVICES

Proofs

Proofs will be sent to the author (first named author if no corresponding author is identified of multi-authored papers) and should be returned within 48 hours of receipt. Corrections should be restricted to typesetting errors; any others may be charged to the author. Any queries should be answered in full. Please note that authors are urged to check their proofs carefully before return, since the inclusion of late corrections cannot be guaranteed. Proofs are to be returned to the Hellenic Regulatory Body of Nurses, Vas. Sofias 47 str., 10676 Athens, Greece.

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THE EPITOME OF USEFUL INFORMATION

INCORPORATION OF THE HELLENIC REGULATORY BODY OF NURSES

The Hellenic Regulatory Body of Nurses was constituted by the law 3252/2004 as a form of a Public Body and functions as the official professional body representing the nurses. The enrolment of all nurses is compulsory as is done in corresponding chambers overseeing other professions and functions as a regulatory body and the official counselor of the state (Pan-Hellenic Medical Association, Legal Association of Athens, Technical Chamber of Greece etc.)

MAIN GOALS OF HRBN

In an effort to make the reasons that all nurses should be subscribed to HRBN clear, shown below are the basic goals as presented by the law 3252/2004 and these should be implemented by HRBN:

- The promotion and development of nursing as an independent and autonomous science and art.
- The research, analysis and study of nursing matters and the formulation and submission of scientifically documented studies of the various nursing problems in the country.
- The construction of proposals on nursing matters.
- The continuous training and educating of nursing staff and the materialization and utilization of training programmes.
- The participation in materializing programmes which are funded by the European Union or other international organizations.
- The editing of certificates which are necessary for obtaining a license to practice the nursing profession.
- The evaluation of the nursing care provided.
- The representation of our country at international organizations regarding the nursing department.
- The publication of a journal, an informative bulletin, text books and leaflets so as to inform its members and the public.
- The study of Medicaid matters and the organization of scientific congresses that are independent or in cooperation with other bodies.
- The creation of an ethics committee for the nursing profession.
- The definition and cost assessment of nursing activities.
- The protection and enhancement of the level of health of the Greek population.

MEMBERS OF HRBN

It is compulsory for members of HRBN to be nurses, in other words they should be graduates of the following:

a) University level nursing schools
b) Technical level nursing schools
c) Former higher school for nursing, visiting nurses belonging to the ministry of health, welfare and social security
d) Former nursing school "KATEE"
e) Foreign nursing schools with degrees that are accepted as equivalent to the corresponding Greek schools
f) Military supreme nursing schools

STRUCTURE OF HRBN

HRBN is composed of a central administration, which is located in Athens, and seven peripheral sections, one in each health district of the country.

CENTRAL ADMINISTRATION

The central administration is made up of a 15 member executive council and has its central office in Athens. The address is 47 Vasilisis Sofias Avenue p.c. 10676, tel: 210 3648044-048 and fax: 2103617859 and 210 3648049. HRBN's website is www.enne.gr and email: info@enne.gr .

PERIPHERAL SECTIONS

The peripheral sections correspond to the number of health districts in the country and include:

1. Ist P.S. Attica: 47 Vasilisis Sofias Avenue, p.c. 10676, tel: 210 3648044-048 and fax: 2103617859 and 2103648049
2. 2nd P.S. Piraeus and Aegean: 47 Vasilisis Sofias Avenue, p.c. 10676, tel:210 3648044-048 and fax: 2103617859 and 2103648049
3. 3rd P.S. Macedonia: 11 Mavili St., Thessalonika p.c. 54630, tel: 2310 522229 and fax: 2310 522219
4. 4th P.S. Macedonia and Thrace: 11 Mavili St., Thessalonika p.c. 54630, tel: 2310 522229 and fax: 2310 522219
5. 5th P.S. Thessaly and Mainland Greece: 2 Navarinou St., Larissa p.c. 41223 tel: 2410 284866 and fax: 2410 284871
6. 6th P.S. Peloponnese, Ionian Islands, Epirus, and Western Greece: 1 Ipatis and N.E.O Patra-Athens, Patra p.c. 26441 tel. and fax: 2610 423830
7. 7th P.S. Crete: 116 Menelaou Parlama St., Irakleio p.c. 73105 tel: 2810 310366, 2810 311684 and fax: 2810 310014

MEMBER REGISTRATION AND SUBSCRIPTION

All nurses are obliged to apply for registration at the nearest peripheral section. The application form requires a certified copy of the nurse's degree and official identification, two coloured photographs, the receipt from the bank statement for the amount of 65 €, a simple copy of the license to practice the nursing profession and other titles that the applicant might have are optional (postgraduate degrees, certificates for foreign languages, social activities etc.).

All nurses are obliged to renew their subscription annually, in person or by post (not by fax) till the end of February, by handing in the appropriate statement to the nearest peripheral section. The statement should be handed in simultaneously with the annual subscription fee, which has been assigned to the amount of 45 € by the law 3252/2004.

All nurses who register or renew their subscription to HRBN are given a Nursing Identity Card.

LICENSE TO PRACTICE THE NURSING PROFESSION

The license to practice the nursing profession can be administered at the local prefecture by presenting the necessary documents and certification of registration at their HRBN peripheral section. When receiving the license to practice it is compulsory to present a copy to the peripheral section to which they belong.

According to the law 3252/2004, whoever practices the nursing profession without a license to practice will be prosecuted according to the article 458 of the Greek penal code.

Any individual of the peripheral council or the board of directors can file a complaint for illegal practice of the nursing profession and thereafter must notify the judiciary authorities.

In the case of a temporary disciplinary sentence or final disqualification from HRBN the license to practice is automatically suspended.

ADMINISTRATIVE BODIES

HRBN is administered by the assembly of representatives and the executive council. The peripheral sections are administered by the general assembly and the peripheral council.

HRBN'S INTERNATIONAL REPRESENTATION

HRBN is a member of FEPI and has one of the seven positions on the board of directors. England, Italy, Spain, Ireland, Poland, Croatia, Romania and Portugal participate in this European federation. France, Cyprus and Belgium are under consideration for participation. For more information the website is www.fepi.org.

SELECTION AND SERVICE OF ADMINISTRATIVE BODIES

HRBN's board of directors is elected by the assembly of representatives. The representatives are elected separately for each peripheral section by the members of the department's General Assembly. The peripheral councils are elected in a similar way by the members of the peripheral department's General Assembly.

These elections take place every 3 years and Nurses that take part are members in good standing (subscription payed).

DISCIPLINARY CHECK

The members of HRBN are initially submitted to a disciplinary check by the peripheral section, which also functions as a disciplinary council. The secondary disciplinary check, as well as the disciplinary check of the members of the board and the peripheral councils is executed by the supreme disciplinary council, whose president is the supreme court judge.

SCIENTIFIC JOURNAL

HRBN created the "Hellenic Journal of Nursing Science" in 2008 which is its official journal. It is a multidimensional journal with an editorial committee which aims at the promotion of the nursing science in Greece.

The "Hellenic Journal of the Nursing Science" is a reliable, modern, quarterly scientific journal which is published in Greek and English and is available in electronic and print-

ed form. A nominal fee is offered to all interested researchers, university teaching staff, students and the entire nursing community in general as well as the tertiary university and technical level schools (Greek or foreign).
Simultaneously it offers young scientists easy access to knowledge and the chance for nursing to progress, as well as a scientific step for the nurses who work in the academic area and the clinical area to publish their work and undergo some constructive criticism. The journal publishes research studies, reviews, original dissertations and book reviews.
The papers that are published, are credited in a manner that is regulated and certified by the Greek legislation according to international standards.

INFORMATIVE JOURNAL

HRBN created a monthly informative journal in 2008 "Rhythm of Health – Ρυθμός της Υγείας", aiming at promoting and demonstrating each nurse as a unified psychosomatic and professional personality.
The nurses in Greece have the need to solve primary issues that concern their profession as well as the need to express themselves, to communicate, to enjoy themselves and to demonstrate the diverse aspects of their social purpose.
"Rhythm of Health - Ρυθμός της Υγείας" aims at uniting the voice of all nurses in the country and becoming an immediate and dependable form of communication, giving a chance to all voices of the professional community to be heard.

GOALS FOR THE FUTURE

With the collaboration of all its members HRBN aims at materializing and completing some important projects that are requested by the nursing community, some of which have already started being carried out:
- The definition and cost assessment of nursing activities.
- The creation of an open line of communication so as to record and solve the nursing problems.
- The enhancement of international relations between Greek nurses and organizations, for and international institutes.
- The creation of an electronic digital library which can be used free of charge by members of HRBN and to which the whole country will have access.
- Will offer specific training and postgraduate courses.
- The organizing of scientific congresses and day meetings with formal accreditation.
- The formation of specific project committees such as a training committee, a documentation committee, a foreign affairs committee and an informative committee.
- The creation of a network of experts on nursing issues and the provision of legal advice.
- The creation and function of specialization programmes.
- The certification of nursing specialties and nursing adequacy.

CONTACTS

Nurses can contact us :
Tel: 2103648044, 210 3648048 (8:00-15:00)
Fax: 2103648049, 210 3617859
Email: info@enne.gr

- For professional matters
- For training matters
- For legal issues
- For their registration or renewal of subscription
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- Proclamations via the Hellenic public organization for hiring personnel "ΑΣΕΠ"
- For positions in the health sector