

Nurses' interventions to reduce unwanted noise

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Abstract

The study evaluated the nurses' interventions to reduce unwanted noise. This hospital-based, descriptive study was conducted at a Training Hospital in the Eastern part of Turkey, Trabzon, between 15-30 January 2016. It was participated by 248 volunteer nurses. Nurses express the noise of visitors (96.3%) on the first rank among the kinds of noise. The results of the study showed that most of the nurses were determined to use "a picture hanging technique on the wall" (53.2%) for preventing noise. No significant correlation was found between the descriptive characteristics of the nurses and nursing interventions to prevent noise ($p > 0.05$). A significant difference was found between the nurses working in internal medicine and surgical service in terms of the effect of noise on their work ($p < 0.05$).

Keywords: Hospital, Nurses' Interventions, Noise Effects, Unwanted Noise, Turkey.

Introduction

As one of the most important environmental pollutants, noise is a significant factor that makes communication difficult for people, makes them uneasy, affects the nervous system, reduces the efficiency of work and creates a hearing problem. Noise can be grouped as unwanted sounds, dissonant, non-cyclical sounds, and those affecting auditory system negatively.¹ Scientists who define noise as an unwanted sound indicate that the people working in this kind of environment may develop psychological and physiological problems.^{2,3} Hospital noise is generally ignored, yet it causes stress, affects the sympathetic nervous system and activates endocrine system.^{4,5} Unwanted noise leads to sleep disorders, irritability, lack of concentration, anxiety and headaches in patients.⁴ This situation may delay the healing process of the patient and also be the source of unhappiness for both patients and employees. Noise in hospitals may be caused by patients, their relatives, communication among medical staff and the equipment they use as well as telephone, computer, television, and the sound of a

machine. Noise both affects the health of patients and health workers.

In literature there are some studies regarding the noise in hospitals.¹⁻⁵ In these studies, it has been frequently reported that hospital noise causes various problems. Despite obtaining some information from these studies regarding the types of noise in hospitals, it is important that the nurses' interventions to reduce unwanted noise in their own hospitals be identified for hospitals in the process of developing protocols. As the ones who provide one to one care, spend longer time with patients and have a professional approach, nurses are expected to be aware of the importance of meeting patients' needs in noise free environment in terms of both themselves and patients in their clinical work. Through a holistic approach, nurses are expected to take the necessary precautions about noise by determining the factors that affect health status of the nurse and patients. The current study was designed to analyze the nurses' interventions to reduce unwanted noise.

Methods and Results

The study was conducted as a descriptive research with 248 voluntary nurses working in a Research and Training Hospital, Trabzon, Turkey from 15-30 January 2016 after receiving institutional consent. The study population consisted of nurses working at the surgical and internal clinic of the hospital. All the nurses were tried to be reached without sample selection. The participants who worked in medical and internal medicine clinic and were able to communicate and willing to participate in the study were included. The data were collected using a face to face interview that lasted 10-15 minutes included questions regarding socio-demographic characteristics of nurses (7 questions), nurses' views regarding noise (4 questions) and their interventions to reduce the unwanted noise. The study was approved by institutional ethics committee (Protocol code: 11-2011). For statistics, SPSS was used and number, percentage, standard deviation (SD), minimum and maximum values, frequency analyses and Chi-square test were performed. The significance value was determined as $P < 0.05$. The mean age of nurses was 42 ± 1.43 years, 197 (79.4%) were married, 135 (54.4%) were university graduates, 104 (41.9%) had 1-2 children, 145 (58.4%) worked in

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Table-1: Nurses' Views Regarding Noise (n=248).

Nurses' Views	n	%
Does noise affect health?		
Yes	230	92.7
No	18	7.3
Does hospital know the noise protocol?		
Yes	8	32.2
No	240	67.8
Does noise affect your work?		
Yes	181	72.9
No	67	27.1
*The types of noise you are disturbed by		
Visitors	239	96.3
Telephones	237	95.5
Room doors	232	93.5
Health staff speaking loudly	221	89.1
Patient bed side seminars	199	80.2
Machines-air conditioners	197	79.4
Interns	195	78.6
Kitchen service	168	67.7
Television	54	21.7

*More than one answer.

Table-2: Nurses' Interventions Against Unwanted Noise (n=248).

*Nurses' Interventions	n	%
Hanging "please be quiet" signs and pictures in clinics and patient rooms	132	53.2
Warning people that make noise	125	50.4
Spraying room scents intermittently	124	50.0
Reducing the volume of the device	101	40.7
Soft music use in the entire clinic	98	39.5
Listening to music with headphones	73	29.4
Using headphones	68	27.4
Doing nothing	116	46.7

*More than one answer.

internal medicine units, 98(39.5%) worked in the same units for 11 -15 years, 104(41.9%) had at least one chronic disease, 43(17.3%) used at least one drug for depression. 230(92.7%) of the nurses stated that their health was affected by noise, 240(67.8%) did not know the service and the hospital's noise protocol and 181(72.9%) indicated that noise affected their work. The percentages of the nurses who were affected by noise according to noise sources are as follows; 239(96.3%) visitors, 237(95.5%) phones, 232(93.5%) room doors, 221(89.1%) yelling sounds, 199(80.2%) patient bed side seminars, 197(79.4%) machines — air conditioners, 195(78.6%) interns, 168(67.7%) kitchen service noise, 54(21.7%) television (Table-1).

The interventions of nurses for such unwanted noise are

listed as the following; 132(53.2%) hanging "please be quiet" signs and pictures in clinics and patient rooms, 124(50.0%) spraying room scents intermittently, 125(50.4%) warning people making noise, 101(40.7%) reducing the volume of the device that makes noise, 98(39.5%) soft music use in the entire clinic, 73(29.4%) listening to music with headphones, 68(27.4%) using headphones and 116(46.7%) doing nothing (Table-2). No significant correlation was found between descriptive characteristics of nurses and nursing interventions ($X^2 = 0.162, p > 0.05$). A significant difference was found between the ones who worked in the internal medicine unit (n=145) and those working in surgical unit (n =103) in terms of the effect of the noise on their work ($X^2 = 11.76, p < 0.05$).

Discussion

In many studies carried out in our country, the main source of noise is the speech of the service personnel.^{4,5} In our study, the noise generated by visitors ranked first and it is similar to the literature in terms of being close to the ratio of the noise resulting from the speech of medical personnel. Many studies conducted abroad indicate that the source of unwanted noise is generally hospital-based machine noises.^{4,6,7} These transnational differences show the lack of sanctions for human noise in our country, which can be a solution for hospitals. Of course, hospitals are constantly dynamic places and will never be quiet as much as expected. However, the fact that hospitals have an advanced culture to be silent is crucial in reducing unwanted noise. Organizational climate is a reflection of a dynamic process of interaction including organizational conditions, employees and management applications.^{8,9} In our study, it was found that the services of nurses do not have a noise protocol. The studies conducted on occupational health and safety report that the high rate of being disturbed by noise causes problems that can reach up to the lack of attention of the employees.^{9,10} Considering the studies pointing out the effect of noise on work, noise has an important place among the main risk factors for occupational safety.⁵⁻⁷ This risk becomes more important for both patients and health workers. In our study, the initiatives of the nurses reporting that noise affected their work were to hang "please be quiet" signs and pictures in clinics and patient rooms and warning people making noise respectively. These initiatives seem to be for the unwanted man-made noise. The studies indicate that the interventions carried out towards the noise source is more effective.^{7,10} The warning signs and pictures hung on the walls for the solution of a social issue have been reported to be inadequate to provide expected effective results by various studies.^{1,5,10}

However, due to the increase in physical and verbal violence against nurses by patients and their relatives in our country last year, pictures and text warnings rather than personal warnings for noise have been used.^{1,3,7} One of the measures taken by nurses to protect themselves from unwanted noise is to listen to music with headphones. The research on this method shows that using headphones is appropriate for the ones who work with machines in terms of patient safety.^{3,5,7} Especially in developing countries like Turkey, in accordance with the proposed studies parallel to the literature, the use of soft music and aromatherapy is common in most of the hospitals to prevent unwanted noise. However, in our study, the ratio of taking no precautions against noise apart from hospital management and personal measures is remarkably high.

Conclusion

In this study, the majority of nurses were found to use "hanging signs and pictures on the wall" technique for preventing unwanted noise. Physical working environment of nurses who provide care to patients in the hospitals and services to human health is extremely important in terms of being efficient and maintaining their personal health.

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