

The Role of Nursing in Protecting Patients from Noise in Health Facilities

Najla.E.Alharbi¹, Rabab.H.Alsahafi², Amal.M.Otaif³, Saadia.M.Bakhsh³,
Halima.O.Almalki³, Badreyah.M.Otaif⁴, Bandar.A.Almaghami⁵,
Esaam.D.Almhadi⁶, Somaya.H.Hawsawi⁷, Yasmeen.M.Mattaen⁸

¹Nurse Specialist at Ainshams PHC

²Nursing Specialist at Wadi Numan PHC

³Nursing technician at Maternity and Children's Hospital in Mecca

⁴Nursing Specialist at Kudi & Alhijrah PHC

⁵Primary care technician in the Executive Management of Medical Supply Chains in
Mecca manages medical supply

⁶Nursing Technician at King Abdulaziz Hospital

⁷Nursing Technician at Alhajj Street PHC

⁸Nursing Specialist at Maternity and Children's Hospital in Mecca

Abstract

This study aims to definition of noise and what is its source, the role of the nurse in sparing patients noise and disturbance inside the health facility, especially intensive care rooms, hospitalization rooms, etc., the role of visitors in not disturbing other patients in the health facility, A questionnaire was prepared via Google Drive and distributed to the population aged 25-55 years, men and women, in the city of Mecca. As for the questionnaire, it was distributed via the social networking program (WhatsApp) for the purpose of distancing for fear of the presence of the Corona virus. 400 questionnaires were distributed, and 380 responses were obtained via email to the principal researcher.

Keywords: The role of nursing, in protecting patients, from noise in health facilities.

1. Introduction

Noise, defined as unwanted sounds, could affect people both psychologically and physiologically ⁽¹⁾, with reported negative effects including cardiovascular stimulation, hearing loss, increased gastric secretion, pituitary and adrenal gland stimulation, suppression of the immune response to infection, as well as female reproduction and fertility ⁽²⁻⁷⁾. The World Health Organization (WHO) recommended that noise levels inside hospital wards should not exceed 30

dBA at night in terms of sleep disturbance ⁽⁸⁾. Unfortunately, most case studies, especially the recent data, show that noise levels inside hospitals are much higher than the guideline values. Since the 1960s, the average noise levels inside hospitals have increased by an average of 0.38 dBA (day) and 0.42 dBA (night) per year ⁽⁹⁾ The noise level in intensive care units (ICUs) ranges from 50 to 75 dBA, with the highest night peak level even reaching 103 dBA ⁽¹⁰⁾. Sleep disturbance is thus a common problem for patients. Sleep is a complicated and active process. In Terms of the measurement of eye movement, sleep is divided into two main types, namely rapid eye movement (REM) and non-rapid eye movement (NREM) sleep. Each type may have a distinct set of associated physiological, psychological and neurological functions. Medical nursing homes, including therapeutic residential centres, ensure the care of patients for a long period, and are engaged in providing medical treatment or short work of a general or specialized nature to non-resident patients with any variety of medical conditions. ⁽¹¹⁾

2. Material and Methods:

The study began in (the city of Mecca in the Kingdom of Saudi Arabia), and the study ended with writing the data collection in September 2024. The researcher used descriptive analysis, an approach that uses quantitative or qualitative description of the social phenomenon. The independent variable (Percentage of noise and nuisance (international levels) in the health facility) and the dependent variable (The level of disturbance and noise to patients in the health facility in Mecca). This type of study is characterized by analysis, reason, objectivity, and reality. It is also concerned with individuals and societies, as it studies the variables and their impact on the health of the individual, society, and the consumer, and the spread of diseases and their relationship. For demographic variables such as age, gender, nationality, and marital status. Status and occupation ⁽¹²⁾, and use the Excel 2010 Office suite pie chart to sort the results ⁽¹³⁾. The questionnaire is a wonderful and useful tool for collecting a huge amount of data, but the researchers were not able to conduct personal interviews with the participants in the online survey, due to social distancing rules at the time to prevent infection between participants and researchers and vice versa (Coronavirus sharing has not completely disappeared. of the community), and the questionnaire was only answered electronically, because the questionnaire consists of fifteen questions, all of which are closed-ended.

3. Results and discussion:

The percentage of those who agreed to participate in the questionnaire for the scientific paper entitled (The Role of Nursing in Protecting Patients from Noise in Health Facilities) reached 100%, and the percentage of their ages in percentage terms was as follows: 25-34 years old amounted to 70.7%, and those aged 35-44 years old amounted to 50%, and those aged 45-55 years, their percentage reached 42.3%, and their gender was as follows: 19.2% males and 80.8% females, and their nationalities were 100% Saudis and Saudis. While their occupations were as follows: student 0%, government employee 96.2%, private sector employee 0%, housewife 3.8%, self-employed women and men 0%, unemployed (not working) 0%, and as for educational status, mother (Does not read) - Primary - Intermediate 0%, Secondary 23.1%, University 69.2%,

Master's or Doctorate 7.7%. As for the questionnaire questions and their responses, the answers were as follows: First question: One of the most important rights of the patient is to be treated with compassion and respect? Yes 100% and no I don't know 0%. The second question: Among the patient's rights is non-discrimination in receiving health care. Yes 93.2%, No 7.7%, and I don't know 0%. The third question: The patient has the right to have his privacy preserved and to be cared for in a safe atmosphere free of any form of assault.? Question Four: The degree of noise in hospitals varies according to the hospital's departments? Yes, 100%, and No, I don't know, 0%. Question five: Should noise be controlled in hospitals to provide better services? Yes 96.2% and no 0% and I don't know 3.8%. Question Six: Should a comfortable environment be provided without disturbance for newborns in hospitals? Yes 100% and no and I don't know 0%. Seventh question: The patient must respect the rights of others and not disturb them with noise or any other behavior? Question Eight: Should noise insulation be provided in certain hospital departments? Question Nine: Patients have the right to receive service in a respectful, kind, compassionate and friendly environment, where their individual reputation is protected at all times and in all circumstances? Yes 100% and No I don't know 0%. Question ten: The patient and his family must respect the rights of other patients and hospital employees while adhering to not disturbing and not smoking inside the hospital? Yes 96.2%, no 3.8%, and I don't know 0%. Question eleven: Replace the room with another in case of discomfort, provided that the room appropriate to the patient's health condition is available? Yes 96.2% No 0% I don't know 3.8%. Question 12: Should visitors be informed not to make noise out of respect for patients? Yes 100% and No I don't know 0%. Question thirteen: Is sound insulation the ideal method for reducing noise inside patient rooms, and this comes through treating the external walls and window openings? Yes 92.3%, No 3.5%, and I don't know 3.5%. Question fourteen: Can noise protection be achieved by using landscaping, fences, or by keeping the building away from the source (distance)? Last question: Can it be implemented through sound-absorbing materials such as acoustic panels or ceiling tiles to significantly reduce noise levels in hospitals and clinics? Yes 92.3% No 0% I don't know 7.7%. There is no study specifically indicating the role of nursing in protecting patients from noise. There is a study on: "Clinical review: The impact of noise on patients' sleep and the effectiveness of noise reduction strategies in intensive care units. ⁽¹⁴⁾" There is another study on "Noise in hospital rooms and sleep disturbance in hospitalized medical patients". ⁽¹⁵⁾

Table: no-1: Achieving noise protection for patients, according to the opinions and trends of the participants in the questionnaire

I don't know	No	Yes	Type of protecting patients
3.5%	3.5%	92.3%	Sound insulation is the ideal method for reducing noise inside patient rooms, and this comes through treating the external walls and window openings.
7.7%	0%	92.3%	Noise protection can be achieved by using landscaping, fences, or by keeping the building away from the source (distance)
7.7%	0%	92.3%	It can be implemented through sound-absorbing materials such as acoustic panels or ceiling tiles to significantly reduce noise levels in hospitals and clinics

4. Conclusion:

Regarding the participants' opinions about reducing the level of noise for patients, their answers were as follows: by sound insulation inside patient rooms, while treating the external walls and window openings, by using landscaping or fences, or by distancing the building from the source at the same rate, and finally by using sound-absorbing materials such as acoustic panels or tiles. The ceiling to significantly reduce noise levels in hospitals and clinics, all by the same percentage of 92.3%.

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WORKS CITED

- Kang J: Urban Sound Environment. London: Taylor and Francis; 2006
- Snyder-Halpern R: The effect of critical care unit noise on patient sleep cycles. *Crit Care Q* 1985, 4:41-51.
- Thomas KA, Martin PA: NICU sound environment and the potential problems for caregivers. *J Perinatol* 2000, 20(Suppl 1):94-99
- Tomei F, Papaleo B, Baccolo TP, Persechino B, Spano G, Rosati MV: Noise and gastric secretion. *Am J Ind Med* 1994, 26:367-372
- Falk SA, Woods N: Hospital noise: levels and potential health hazards. *New Engl J Med* 1973, 289:774-781
- Wysocki A: The effect of intermittent noise exposure on wound healing. *Adv Wound Care* 1996, 9:35-39.
- Nurminen T: Female noise exposure, shift work and reproduction. *J Occup Environ Med* 1995, 37:945-950
- Berglund B, Lindvall T, Schwela DH: Guidelines for Community Noise. Geneva: World Health Organization; 1999.
- Busch-Vishniac IJ, West JE, Barnhill C, Hunter T, Orellana D, Chivukula R: Noise levels in Johns Hopkins Hospital. *J Acoust Soc Am* 2005, 118:3629-3645
- Al-Samsam RH, Cullen P: Sleep and adverse environmental factors in sedated mechanically ventilated pediatric intensive care patients. *Pediatr Crit Care Med* 2005, 6:562-567.
- International Standard Industrial Classification of All Economic Activities Rev.3.1". United Nations Statistics Division. Archived from the original on 07/07/2017
- Alserahy, Hassan Awad, et al (2008), The thinking and scientific research, Scientific Publishing Center, King Abdul-Aziz University in Jeddah, the first edition
- Al Zoghbi, Muhammad and AlTalvah, Abas (2000), Statistical system understanding and analysis of statistical data, first edition, Jordon- Amman.
- Clinical review: The impact of noise on patients' sleep and the effectiveness of noise reduction strategies in intensive care units" Hui Xie^{1,2}, Jian Kang¹ and Gary H Mills²
- ¹School of Architecture, University of Sheffield, Western Bank, Sheffield S10 2TN, United Kingdom,
- ²Sheffield Teaching Hospitals NHS Foundations Trust, Royal Hallamshire Hospital, Glossop Road, Sheffield S10 2JF, United Kingdom, Published: 9 March 2009, This article is online at <http://ccforum.com/content/13/2/208>.
- "Noise in hospital rooms and sleep disturbance in hospitalized medical patients" Marn Joon Park¹, Jee Hee Yoo², Byung Wook Cho³, Ki Tae Kim⁴, Woo-Chul Jeong⁵, Mina Ha⁶