



AN OVERVIEW OF ISOLATION PRECAUTIONS, INDICATIONS AND IMPACT ON PATIENT MENTAL HEALTH

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Abstract:

Given the escalating issue of resistant bacteria to antibiotics in healthcare facilities, the practice of isolating patients will continue to be crucial and its significance will only intensify as a vital measure to curb the spread of multidrug-resistant organisms (MDRO) within these institutions.

A comprehensive literature analysis was undertaken using electronic databases, with the objective of highlighting the significance of isolation precautions and their influence on the mental well-being of patients. Research has indicated that isolation can have adverse effects on the psychological well-being, safety, satisfaction, and overall care of patients. However, further well-established methods and extensive studies are required to further investigate this matter. Providing patients with information during isolation is an essential element in the effort to alleviate anxiety and suffering.

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Introduction:

Isolation is a well-established component of any prevention of infections approach. The goal of this is to hinder the spread of antibiotic-resistant bacteria, which are both extremely infectious and capable of causing severe infections. The efficacy of isolation has been called into doubt, particularly due to the difficulties it presents, such as patients' lack of comprehension of the necessity of segregation, which may lead to uncooperative behavior stemming from boredom or distress [1].

The prevalence of antimicrobial resistance in US hospitals has reached a level that is close to an epidemic, which has prompted the implementation of mandated infection control programs. To avoid the transfer of resistant organisms, many approaches have been employed, such as implementing antimicrobial surveillance programs, promoting hand hygiene products, increasing education efforts, and enforcing tight barrier and isolation procedures [2].

Since 1996, the Centers for Disease Control and Prevention (CDC) in Atlanta, GA, USA, have advised the implementation of Standard and Contact Precautions for multidrug-resistant organisms (MDRO) such as methicillin-resistant *Staphylococcus aureus* (MRSA), resistant to vancomycin enterococcus (VRE), and specific Gram-negative bacilli (GNB) that are considered to have significant clinical and epidemiological importance by a program for infection control [3].

This paper a comprehensive review of the utilization of isolation precautions in the medical environment, encompassing droplet, airborne, and contact precautions. The article encompasses the reasons for utilization, instructions for proper cessation of precautions, and the impact of precautionary measures on the mental well-being of patients.

Overview:

A recent survey investigating the management of patients isolated for infectious conditions indicates that the primary concerns in clinical settings are promptly determining which patients require isolation and determining the order of priority for segregating patients when there is a shortage of isolation facilities. Healthcare professionals specializing in infection prevention were cognizant of the potential adverse consequences of isolation on patients, including heightened susceptibility to anxiety, depression, and falls. They believed that further measures should be implemented to mitigate these risks[4].

While it is often believed that single rooms might

decrease the risk of infection, the data on their effectiveness in containing the spread of infections is inconclusive. A recent research conducted in a hospital where all patients were assigned to single rooms failed to show reduced infection rates compared to hospitals where most of the treatment is provided in open wards [5]. This study examined the benefits and drawbacks of using single-room accommodations for isolating infected patients, which is commonly believed to lead to negative consequences [5].

An 8-year-old comprehensive review found that patients who were isolated experienced elevated levels of anxiety, sadness, feelings of stigmatization, and a greater occurrence of falls, medication mistakes, and other episodes that compromise patient safety, as compared to patients who were not isolated [6].

According to current guidelines, contact precautions should involve isolating the patient in a single room and using protective clothing such as a gown and gloves for any interactions with the patient or possibly contaminated surroundings [1,4].

An effective method for achieving a balance among different priorities is to utilize the Grading of suggestions, Assessment, Development and Evaluation (GRADE) Working Group's Evidence to Decision Framework. This framework offers guidelines for making recommendations at the individual, group, and policy levels, and includes several patient-centered criteria for this purpose. Furthermore, apart from the need for reliable evidence and sufficient resources, it is also necessary to take into account the trade-off between positive and negative consequences, the influence on fairness, and the practicality and acceptability of the intervention [7].

Nevertheless, among the extensive community of individuals who are afflicted or possibly affected, certain groups may possess distinct requirements. For instance, a research conducted on individuals separated due to Middle East respiratory sickness (MERS) revealed that having access to telephones alleviated feelings of worry and anger, but having access to email, SMS, and internet intensified these emotions [7]. This aspect was not thoroughly examined in the aforementioned investigations. Insufficient information may exist in the domain of age, with older individuals potentially experiencing heightened feelings of sadness and loneliness. Additionally, gender is another area where data may be lacking. Qualitative evidence indicates that women in isolation displayed greater concern regarding precautions and transmission, while men

exhibited a more resigned and rational attitude, and generally coped better [8].

Single rooms have been the prevailing pattern for new hospitals in many nations, including the USA. Consequently, one may anticipate a decrease in negative consequences if all patients are accommodated in individual rooms, since this is the customary practice. Nevertheless, it is possible that a solitary room alone is not enough to produce these findings, and that it is the conjunction of a solitary room with an illness that gives rise to these outcomes. Undoubtedly, it is uncertain if the extensive list of benefits attributed to single rooms, such as less stress, improved care delivery, and reduced likelihood of nutritional or pharmaceutical mistakes, are applicable to this specific group of patients [9].

While caring for patients in single rooms presents numerous challenges, there is evidence suggesting that these challenges can be reduced in a general population. However, it is important to note that the strategies identified in the expanding literature may not directly apply in this context due to the specific isolation procedures that act as a barrier. Consequently, patients who require more social interaction will require a solution that is distinct from what would be suitable for another group of patients. The advantage of having a choice, which is provided by single rooms, is not applicable in this case [10].

For the purpose of preventing the spread of these multidrug-resistant organisms (MDRO), it is strongly advised and often used in healthcare facilities to implement contact isolation for patients who are already known to be carrying or infected with these MDRO. While patient isolation is crucial in healthcare settings to prevent the spread of drug-resistant pathogens, it has been observed that it can have negative consequences for patients. For instance, some have noted that the need for healthcare workers to wear gowns and gloves before examining patients may hinder the physician's ability to conduct thorough physical examinations. Additionally, it may discourage healthcare workers from entering patient rooms. Furthermore, other research has highlighted the apprehension that seclusion might have an adverse impact on the mental well-being of patients [6,9]. The psychological negative consequences of isolation are likely associated with uncertainty and lack of control, which originate from several causes but ultimately arise from isolation itself. Several writers have proposed that providing emotional preparation to these individuals before isolation might potentially reduce their anxiety [7].

Furthermore, providing patients with education on the isolation might be advantageous as it helps them comprehend the essentiality of isolation and effectively manage it [9]. The study conducted by Rees et al. supports this claim, since they discovered a strong correlation between a patient's pleasure and maintaining effective contact with their healthcare professionals, regardless of whether they were in source isolation or not [10]. The Patient Safety Goals for 2009 set by the Joint Commission include a directive for patient education on MDRO (Multidrug-Resistant Organisms) and isolation.

Conclusion:

While it is crucial to take precautions for infection control, the utilization of these safeguards has been linked to negative incidents related to patient care. Research has indicated that patients experience adverse effects on their mental well-being and behavior, together with elevated depression ratings. Furthermore, healthcare professionals allocate a reduced amount of time engaging in direct interactions with patients, resulting in a decline in patient satisfaction due to their perception of being inadequately informed about their healthcare plans.

The presence of suspected or confirmed *C. difficile* infection warrants the use of contact precautions. *Clostridium difficile* is a kind of bacteria that forms spores and is gram-positive, anaerobic, and rod-shaped. It is responsible for the most frequent infectious cause of diarrhea and pseudomembranous colitis that occurs as a result of taking antibiotics. Spores has the capacity to last for extended durations on patients and surfaces, are transmitted by direct contact between hands, and exhibit resistance to commonly employed disinfectants, so establishing this pathogen as a significant contributor to healthcare-associated diarrhea.

References:

1. Siegel J.D., Rhinehart E., Jackson M., Healthcare Infection Control Practices Advisory Committee 2007 Guideline for isolation precautions: preventing transmission of infectious agents in healthcare settings. *Am J Infect Control*. 2007;35(10 Suppl 2):S65–S164. <http://www.cdc.gov/ncidod/dhqp/pdf/isolation2007.pdf> Available at: Accessed May 10, 2022.
2. Evans H.L., Shaffer M.M., Hughes M.G. Contact isolation in surgical patients: a barrier to care? *Surgery*. 2003;134:180–188.
3. Siegel J., Rhinehart E., Jackson M., Chiarello L. Centers for Disease Control and Prevention; Atlanta: 2006. Management of multidrug-

- resistant organisms in healthcare settings. pp. 1–72.
4. Gould DJ, Drey NS, Chudleigh J, et al.. Isolating infectious patients: organizational, clinical, and ethical issues. *Am J Infect Control* 2018;46:e65–9. 10.1016/j.ajic.2018.05.024.
 5. Simon M, Maben J, Murrells T, et al.. Is single room Hospital accommodation associated with differences in healthcare-associated infection, falls, pressure ulcers or medication errors? a natural experiment with non-equivalent controls. *J Health Serv Res Policy* 2016;21:147–55. 10.1177/1355819615625700.
 6. Abad C, Fearday A, Safdar N. Adverse effects of isolation in hospitalised patients: a systematic review. *J Hosp Infect* 2010;76:97–102. 10.1016/j.jhin.2010.04.027.
 7. Alonso-Coello P, Oxman AD, Moberg J, et al.. Grade evidence to decision (ETD) frameworks: a systematic and transparent approach to making well informed healthcare choices. 2: clinical practice guidelines. *BMJ*;2016:i2089 10.1136/bmj.i2089
 8. Rechel B. European Observatory on Health Systems and Policies : *Investing in hospitals of the future*. Copenhagen: World Health Organization, European Observatory on Health Systems and Policies, 2009.
 9. Persson E, Anderberg P, Ekwall AK, Kristensson Ekwall A. A room of one's own--Being cared for in a hospital with a single-bed room design. *Scand J Caring Sci* 2015;29:340–6. 10.1111/scs.12168
 10. Rees J., Davies H.R., Birchall C., Price J. Psychological effects of source isolation nursing (2): patient satisfaction. *Nurs Stand*. 2000;14:32–36.