Chapter 8
Flexible ICU Visiting Policies

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ICU Visiting Hours Around the World

Although intensive care unit (ICU) visitation policies vary worldwide, evidence suggests that most adult ICUs impose restrictions to the presence of family members at the bedside of critically ill patients [1–9]. In a recent survey conducted by the World Federation of Societies of Intensive and Critical Care Medicine (WFSICCM), only 39% of WFSICCM country members reported that open visiting hours were fully adopted [10].

Restrictive visitation policies have been justified by the theoretical risks associated with an increased presence of visitors in the critical care setting (mainly infectious complications, disorganization of care, and ICU staff burnout) [11, 12]. Controversially, these risks have not been consistently confirmed by the literature on the subject [13–15], and flexible ICU visiting hours have been endorsed by societies' guidelines as an important strategy to improve patient- and family-centered care [16, 17]. However, the proportion of adult ICUs with unrestricted visiting hours is still very low (Table 8.1). Data from literature shows that a considerable portion of hospitals in the USA [9] and the UK [8] has restrictions regarding visiting hours. Among ICUs with restrictive visiting policies, published studies show that the daily visiting time ranges from a median of 1 hour in Italy [4] and a mean of 1.1 hours in Belgium [1] to a mean of 4.7 hours in France [3]. In Iran, nearly 40% of ICUs do not allow visitors [5]. In Brazil, most adult ICUs follow a restrictive visitation policy in which family members are allowed to visit the critically ill patient from 30 minutes to 1 hour, one to two times per day [2].

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Table 8.1 Published studies about practices regarding adult ICU visiting hours

Country	Year of publication	Number of ICUs	Proportion of ICUs with unrestricted visiting hours
Belgium [1]	2010	57	0%
Brazil [2]	2014	162	2.6%
France [3]	2016	188	23.9%
Italy [4]	2008	257	<1%
Iran [5]	2011	71	0%
Netherlands [6]	2013	55	2.4%
Spain [7]	2015	135	3.8%
UK [8]	2010	206	19.9%
USA[9]	2013	695 hospitals	19.6%

Table 8.2 Effects of flexible ICU visiting hours on patients, family members, and ICU clinicians

Patients	Family members	ICU clinicians
Less anxiety Less cardiocirculatory complications[a]	Higher satisfaction Less anxiety symptoms	Perception of disorganization of care?[b] Staff burnout?[b]
Less delirium	Less depression symptoms	

[a]Cardiac arrhythmias, pulmonary edema, or cardiocirculatory shock
[b]Flexible ICU visiting models with education support for family/visitors are not associated with perception of disorganization of care or staff burnout

Effects of Flexible Visiting Hours

Studies assessing the impact of distinct visiting policies on patients, family members, and clinicians are scarce [15]. Most evidence on the effects of flexible visiting models comes from observational and before-and-after studies. To date, only two randomized clinical trials have been conducted to evaluate the effects of different visiting policies on clinically relevant outcomes [13, 14], and this evidence gap may constitute a barrier to the implementation of patient- and family-centered interventions at the ICU. A summary of the effects of flexible visiting policies on patients, family members, and ICU clinicians is shown in Table 8.2.

Effects on Patients

Beyond the justification of patient preference, flexible ICU visiting models are proposed as a means to improve patient outcomes. Small single-center before-and-after studies have shown an association between flexible ICU visiting hours and reduced incidence of delirium – a form of acute brain dysfunction associated

with worse outcomes, such as long-term cognitive impairment. In the study of Rosa et al., a change of visitation policy from a restricted model (4.5 hours/day) to an extended model (12 hours/day) resulted in a reduction of 50% in the cumulative incidence of delirium (9.6% vs. 20.5%; risk ratio [RR], 0.50; 95% confidence interval [95%CI], 0.26–0.95) [18]. Interestingly, in comparison with a restricted visitation model, an extended visitation model demonstrated a shorter length of delirium/coma (1.5 days vs. 3.0 days; $p = 0.03$) and ICU stay (3.0 days vs. 4.0 days; $p = 0.04$) for patients. Similarly, Westphal et al. showed that the incidence of delirium decreased from 12.1% to 6.7% with the implementation of a 24-hour open visiting policy (odds ratio [OR], 0.52; 95%CI, 0.28–0.96) [19]. Although the precise mechanism for delirium prevention remains unknown, multiple factors are thought to mediate the relationship between flexible ICU visiting policies and reduced incidence of delirium [20]. First, flexible ICU visiting hours may increase the opportunities for improvement in patient-centered care. In this context, the higher interaction between family members and ICU professionals may allow a better sharing of the decision-making process, minimizing the patient exposure to modifiable risk factors for delirium, such as unnecessary sedation and benzodiazepines. Second, it is plausible to assume that flexible visiting policies may promote family engagement in non-pharmacologic interventions for delirium prevention, such as pain control, reorientation activities, establishment of a familiar environment, prevention of sensory deprivation, cognitive stimulation, early mobilisation, and sleep hygiene. Interestingly, these actions have been described as part of multicomponent non-pharmacologic interventions that demonstrated to be associated with reduced incidence of delirium in several studies [21]. Nevertheless, a recent pragmatic cluster-randomized clinical trial with more than 1600 patients from 36 ICUs with restricted visiting hours (median 90 minutes/day) showed a nonsignificant reduction in the incidence of delirium by changing the standard restricted visitation to a flexible visitation supported by visitor education in which close family members were allowed to visit patients for up to 12 hours/day (18.9% vs. 20.1%; RR, 0.91; 95%CI, 0.73–1.15) [13]. The authors hypothesized that the relatively short duration of implementation (mean 3.2 months) may have mitigated the potential benefits of flexible visits, since a longer implementation period might have improved the ability of clinicians to engage family members in multicomponent prevention strategies for delirium. Additionally, the trial excluded a large portion of patients with increased risk for delirium (e.g., patients with prolonged coma) who could have benefited from the intervention.

Flexible visiting hours are also associated with lower severity of stress symptoms among patients. A systematic review and meta-analysis by Nassar et al. showed lower severity of anxiety symptoms among patients during ICU stay with flexible visiting policies [15]. Additionally, a pilot randomized trial showed a reduction in cardiocirculatory complications among ICU patients admitted during periods of unrestricted visiting hours, possibly due to reduction of anxiety and establishment of a more favorable hormonal profile [14].

Regarding possible risks associated with flexible ICU visiting policies, a systematic review and meta-analysis showed no evidence of significant differences between flexible and restricted models in the frequency of ICU-acquired infections or ICU mortality [15].

Effects on Family Members

Flexible visiting hours are often preferred by family members. Results of observational and before-and-after studies show that flexible visitation models are associated with higher family satisfaction [15]. A recent cluster-randomized clinical trial with more than 1200 close family members of critically ill patients showed that the implementation of a flexible visiting policy which included flexible visiting hours and educational support for family members was associated with better satisfaction scores in the following domains of care: proximity (family's access to the patient), information (the way in which information is shared, how regularly information is given, and the extent to which the process of communication is interactive), reassurance (level of reassurance offered by clinicians), support (support provided by clinicians and the abilities of staff to recognize and allow the family to make use of their own social support structures), and comfort (the emotional and physical comfort offered by clinicians and hospital facilities) [13]. Additionally, the trial showed lower severity of anxiety and depression symptoms with flexible visitation during ICU stay – flexible visitation resulted in significantly lower prevalence of probable clinical anxiety (13.4% vs. 28.2%; prevalence ratio [PR], 0.48; 95%CI, 0.35–0.66) and depression (8.1% vs. 17.7%; PR, 0.46; 95%CI, 0.28–0.76) during ICU stay compared to the standard restricted visitation. Lastly, flexible visitation was associated with greater family self-perception of involvement in activities of patient care (e.g., reorientation, emotional support, helping ICU staff understand patient needs, pain control, and mobilisation). Congruent with these findings, the greater involvement of family in critical care may constitute a valuable strategy to improve patient- and family-centered care. In a recent systematic review, Goldfarb et al. found that patient- and family-centered care interventions such as education, communication, emotional support, and respect for the patient's values, preferences, and needs were associated with patient and family satisfaction, improved mental health status, and decreased resource utilization in ICUs, including decreased length of ICU stay [22].

Effects on ICU Clinicians

Observational studies show that ICU clinicians sometimes perceive visits as a source of increased workload and disorganization of care [23, 24]. In a single-center study, 59% of ICU staff members stated that the open visitation policy impaired the organization of patient care, and 72% believed that their work suffered more

interruptions due to the extended presence of families in the ICU [23]. Consistent with these data, a before-and-after study of nine ICUs showed a significant increase in burnout levels among ICU professionals after partial liberalization of visiting hours (42.6% vs. 34.5%; $p = 0.001$) [25]. However, in a cluster-randomized clinical trial with more than 800 ICU clinicians (physicians, nurses, nurse technicians, and physiotherapists) from 36 ICUs, the implementation of flexible visiting hours did not result in significant impact on staff perception of disorganization of care, occurrence of conflicts with visitors, or burnout [13]. Notably, in this trial, the use of an educational strategy targeting visitors may have improved visitor understanding of the ICU environment and perhaps lessened any negative effect of increased duration of visits on ICU routines and staff workload. Altogether, these study findings call attention to the importance of clinician-centered strategies (reduction of workload, training in communication skills, and both clinician and family education) while implementing flexible visiting hours, since increased workload and burnout may be associated with reduced patient safety [26, 27].

Long-Term Outcomes

So far, no study has assessed the impact of different visitation models on long-term outcomes among patients, family members, and ICU clinicians. Nevertheless, it is plausible to expect better long-term mental health outcomes for patients and their families with flexible visiting policies, since symptoms of acute stress during ICU stay – major risk factors for long-term anxiety, depression, and posttraumatic stress disorder – can be lessened with the implementation of flexible visiting policies.

Implementation

The literature on strategies of implementation of flexible visiting hours is scarce. So far, only one randomized clinical trial assessed the efficacy of a large-scale implementation of flexible visitation policy [13]. In this study, the implementation of a flexible visitation model (up to 12 hours for close family members) in 36 ICUs of public and private nonprofit hospitals in Brazil was feasible, as reflected by the high adherence of ICUs to the implementation process (mean implementation 90%; 95%CI, 87–92) which included increasing visiting hours, staff training, dissemination of flexible visiting policies, and visitor education. Moreover, the daily mean duration of visits was significantly increased with the flexible visitation model (4.8 hours vs. 1.4 hours; adjusted absolute difference, 3.4 hours [95%CI, 2.8–3.9]). Notably, in this study, visitor education was used as a means to promote a safe flexible visiting policy for patients, family members, and ICU professionals. Family members participating in the flexible visitation model had to attend a structured face-to-face education meeting in which they received guidance about the ICU

environment, common procedures, multidisciplinary work, infection control, patient privacy, palliative care, and delirium prevention [28]. Additional educational strategies, such as website access and brochures, were also used. Future studies may provide additional insights regarding cost-effective strategies of implementation of flexible visiting policies.

Conclusion

Beyond being safe and associated with better patient and family outcomes, a flexible visiting policy is important to respect and to preserve the patient's ties with family during the course of critical illness. Although the implementation of flexible visiting policies may be considered a complex intervention, with a large number of interacting components, it is an achievable aim with many potential benefits for patients and family members. In this context, well-designed studies may help to understand the best way to implement flexible visiting policies and improve their effects on both short- and long-term outcomes among patients and family members.

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