Mitchell, M. & Aitken, L. M. (2016). Flexible visiting positively impacted on patients, families and staff in an Australian Intensive Care Unit: A before-after mixed method study. Australian Critical Care, doi: 10.1016/j.aucc.2016.01.001

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Flexible visiting positively impacted on patients, families and staff in an Australian Intensive Care Unit: A before-after mixed method study

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Abstract

Background: Admission of a relative to intensive care is stressful for families. To help them support the patient, families need assurance, information and an ability to be near their sick relative. Flexible visiting enables patient access but the impact of this on patients, families and staff is not clear.

Objective: To assess the impact of flexible visiting from the perspective of patients, families, and Intensive Care Unit (ICU) staff.

Methods: A before-after mixed method study was used within a philosophy of family-centred care. Patients were interviewed, family members completed the Family Satisfaction in ICU survey and ICU staff completed a survey and participated in focus groups following the introduction of 21 hours per day visiting in a tertiary ICU.

Results: Interviewed patients (n=12) positively viewed extended visiting hours. Family members' (n=181) overall 'satisfaction with care' did not change; however 85% were 'very satisfied' with increased visiting flexibility. Seventy-six% of family visits continued to occur within the previous visiting hours (11am-8pm) with the remaining 24% taking place during the newly available visiting hours. Families recognised the priority of patient care with their personal needs being secondary. Three-quarters of ICU staff were 'satisfied' with flexible visiting and suggested any barriers could be overcome by role modelling family inclusion.

Conclusion: Patients, families and ICU staff positively evaluated flexible visiting hours in this ICU. Although only a minority of families took advantage of the increased hours they indicated appreciation for the additional opportunities. Junior staff may benefit from peer-support to develop family inclusion skills. More flexible visiting times can be incorporated into usual ICU practice in a manner that is viewed positively by all stakeholders.

Key Words:

Critical Care, family-centred care, Intensive Care, staff satisfaction, visiting hours

INTRODUCTION

An admission to an Intensive Care Unit (ICU) is a stressful and anxiety producing time for family members [1-6], as frequently the admission is unplanned or life threatening. Families' needs include reassurance, information about their sick relative's condition and prognosis, and a need to be physically near their relative [7-9]. Furthermore, enhanced communication is consistently cited by families as an important area in need of improvement within critical care areas [10-13]. When these needs are met, family members' stress and anxiety levels decrease [14], and decision-making processes related to the care of a critically ill relative improves [15]. Restrictive visiting hours limit the ability for health care professionals to meet family members' needs and develop open lines of communication [4].

Being in close proximity to a critically ill family member is one of the primary needs of families [9, 16]. However, family members receive varying levels of access. Staff in pediatric and children's ICU accept and recognise families are integral and a recognised contributor to the child's wellbeing [17], yet the same recognition is not universally afforded to families of adult patients where policies often restrict family interaction by maintaining strict visiting hours [18]. Importantly, ICU patients are extremely ill, vulnerable and frequently unable to make their own health care decisions. A survey of current practices in 206 ICUs in the United Kingdom confirmed that around 80% (n=164) restricted visiting in regard to both duration and number of visitors at a time [19]. Similarly, in 68 to 100% of units in various geographical areas of Europe and the United States of America visitation was restricted [20-25]. Sweden was the least restrictive with 30% of ICUs limiting visiting [26]. These restrictions are contrary to evidence of the benefits associated with flexible visiting and are not supported by critical care professional organisation guidelines [4, 27, 28].

Flexible visiting practices have the potential to benefit both the family and the patient. Family members can have the proximity they desire at a time that suits them [16] and patients frequently find the presence of their family supportive and comforting [29, 30]. Despite limited memory of their time in ICU, patients use words such as "help", "safety" and "comfort" to describe the support their family contribute to their wellbeing in ICU[31 p.193].

The aim of this study was to understand the impact of flexible visiting from the viewpoint of key stakeholders – patients, family members, and ICU staff.

Methodology

This study was founded on the philosophy of family-centred care where family are seen as partners in healthcare and are valued for what they bring and contribute to the wellbeing of the patient [4]. A before-after mixed method study was used with surveys, interviews and focus groups for data collection from patients, family members and staff. The mixed method enabled a comprehensive understanding of the use of flexible visiting practices.

Setting

The study was conducted in a public general medical, surgical and trauma ICU in Australia with 25 beds admitting approximately 2,200 patients per year.

Visiting hours prior to commencement of the project

The nursing model for the unit was one-on-one care provided by registered nurses (RNs) which is usual practice in Australia but is atypical in some ICU settings around the world. RNs were responsible for all aspects of care including mechanical ventilation. Before the commencement of the project the unit had a closed visiting policy with daily visiting between 11am and 8pm. Assessment of family satisfaction using the Family-Satisfaction in

Intensive Care Unit survey (FS-ICU) [32] modified to incorporate Australian language and ICU practices had occurred for six months prior to the commencement of flexible visiting.

Design of the intervention – flexible visitation in ICU

Extensive consultation was undertaken with all groups of staff and guidelines for family members and staff were developed (see supplementary material). Family members were not incorporated into patient rounds in this ICU and medical officers requested visitor-free time between 8am - 11am during their main clinical round. Thus the intervention had patient visiting hours change from nine hours per day to 21 hours. University and hospital ethical approval was received before the project commenced. It was carried out with the ethical standards set forth in the Helsinki Declaration of 1975.

Data collection

Data were collected from family members, patients and staff:

1. Family members' completed the FS-ICU survey with five added items on flexible visiting,

2. Patients were interviewed, and

3. Staff completed a survey and participated in focus groups.

Family members

Feedback was invited from family members over the age of 16 years with one survey per family. The surveys were in English. Notices were placed in the Visitors' Waiting Room informing them of the project and inviting all of them to complete the survey. A locked box was provided for the return of surveys. Completion of the survey conveyed consent.

A self-reporting survey was used with three sections: demographic data (eight items), items relating specifically to the flexible visiting (five items) and the FS-ICU survey [32, 33]. Some of the wording of the items was modified to reflect Australian language and personnel.

The FS-ICU survey has two sections – overall care and decision-making. The items have a five point scale with possible responses from poor to excellent.

Patients

Purposeful sampling was used for patient recruitment to ensure a broad cross-section of age, gender, distance of residential location from the hospital and length of ICU stay. Patients needed to be able to converse in English as translators were not available. Potential participants were identified from the ICU discharge list and were approached in the ward by the researcher after confirming with the direct care ward- nurse that the patient was willing to speak with the researcher. Explanation of the study was provided and informed written consent sought.

Demographic data were collected (age, length of ICU stay, admission type, ethnicity) and questions were developed to obtain a patient's view of flexible visiting. These were administered within two days following their discharge from ICU. The interviews were conducted in the patient's room in the general ward by the first author who had no part at any stage in the patient's care. Verbatim notes and comments were made and read back to the participant at the conclusion of the interview to ensure accuracy.

ICU staff

All members of the ICU staff were invited to participate in the study (N=260). Survey Monkey® provided the platform for the staff survey delivered by internal work email accounts. A reminder email was generated three weeks after the original email communication. The surveys were anonymous and completion of a survey indicated consent. The 17 item survey contained demographic items, and a combination of forced questions and open-ended questions to explore perceptions of flexible visiting was developed by the research team and piloted by five ICU nurses to ensure clarity and easy of completion.

In addition, focus groups were held with staff to facilitate additional detail not elicited through the surveys. Informed written consent was obtained prior to commencement of the discussion and participants were assured of confidentiality. Each group discussion commenced with an open-ended question on their perceptions of flexible visiting in the ICU. Verbatim notes and comments were taken and summarised to the group prior to the completion of the session to check for accuracy and completeness.

Data Analysis

Quantitative data were entered into the StataCorp LP (College Station, Texas, USA) for data analysis. Descriptive statistics were generated to summarise and describe the sample and study variables. Univariate analysis was undertaken and included Kolmogorov-Smirnov and Chi-square tests or t-tests (depending on normality of data distribution) to detect before and after group differences related to demographic or clinical characteristics including sex, previous ICU experience and place of residence.

The FS-ICU recoding and scoring was completed following the survey instructions [34]. Higher numbers indicate greater satisfaction. Analysis of individual satisfaction items was performed and summary mean score FS-ICU (for overall satisfaction) and subscales (satisfaction with care and satisfaction with decision making) were calculated [32, 33]. All scores were compared with scores from before and after the introduction of flexible visiting using Wilcoxon's signed rank test as the data were not normally distributed. The level of significance was set at $p<0.05$.

Notes were taken from patient interviews and focus groups with staff. Data were analyzed using content analysis where data were grouped around central, recurrent ideas [35, 36]. Emerging themes and meaningful units were described within and across participants' responses [36] by way of discussion and agreement between the two authors. Recruitment of patients for interviews ceased upon data saturation.

RESULTS

Data were available from 41 family members before flexible visiting was introduced and 140 afterwards. There were no differences in the samples in the two time periods with 64% female and 55% did not have any previous experiences of ICUs.

Family members in both time periods rated their satisfaction in all items (except one) of the FS-ICU tool as "mostly satisfied/good" or above with very few differences. The lowest scoring item was in the 'Decision-Making' sub-scale DM 8: "Do you feel you have control over the care of your family member?" (Table 1). The highest scored items in both time periods were in the 'Caring' sub-scale.

There were no significant differences in sub-scores or total FS-ICU scores before and after the introduction of flexible visiting. However, there were two significantly different individual items. Item 17 examined the atmosphere in the Waiting Room, and results indicated the atmosphere was significantly worse after flexible visiting was introduced (p=0.03). The other significant result was with item 18 which indicated that family satisfaction with 'the amount of health care their sick family member received' was significantly higher after flexible visiting was introduced (p < 0.01).

Table 1 here

The families in the flexible visiting period (n=140) were asked specifically about flexible visiting hours as part of the survey items. Of the 135 who responded to this item, 87% (n=117) were either "completely satisfied" or "very satisfied" with the opportunity for flexible visiting (Figure 1) and this translated to 94% (n=127) having a positive experience with flexible visiting. Forty-two percent (n=58) stated that they stayed for four or more hours. They visited predominantly between 11am and 8pm (76%); however 24% indicated they visited outside the pre-intervention visiting hours.

Figure 1 here

Family members were invited to write additional comments about flexible visiting. Fifty-six participants did so and these comments grouped into three main themes including the importance of flexibility, patient comes first and importance of communication.

Family members needed to be with their sick relative and the importance of flexibility was paramount as indicated below.

"[I] understand late night visits aren't preferred but my profession's hours are afternoon 'til night, so providing a more flexible late night [visit] is helpful."

"[You] want to see your relative as and when you need/want to see them."

The second theme of patient comes first conveyed the message that although the family had their own needs, the patient's needs were their first priority. The following quote conveys this:

"…the nurse and Drs are doing their best with my son so I understand that sometimes I have to wait until I can see him. His welfare comes above all else. I will visit whenever I am allowed to visit him."

The third theme related to the importance of communication to the family as they waited to see their sick relative. During the intervention period, families felt they were kept in the waiting room for excessive periods of time and communication could have been improved, as indicated by the quotes below.

"My husband was an emergency… we just sat and waited all day. We needed to wait to speak to Doctors."

"When we are told how long we'd have to wait before we can visit, the time is less than the reality. I know my dad's care is important, vital and prime to us but we worry something has gone wrong."

Patients' perception of flexible visiting was also explored. A purposive sample of 12 patients was interviewed with some open-ended and closed items (Table 2). All patients considered flexible visiting was a good idea and the number of visits worked well with just two patients expressing a desire for more visits.

Table 2 here

Patients were also asked "What was the best part of having family with you in ICU?" This elicited comments indicating it filled their need for a connection with their relative(s), for example:

"They gave me moral support…pleasurable having them there…made me happy."

"[I] hated being by myself…you need someone when you are so sick."

"[My] family must be worried, so good to have them there."

All patients indicated that flexible visiting was a good idea and it was described as a great benefit to them as patients, and also for their family.

"I felt safer [with them there]."

"Without them being here I would not be here today."

"[I] had hallucinations, so good to ask "did this really happen? They help with reality."

The final sample comprised ICU staff. Eighty-four survey responses were received from staff. This represents a response rate of 32% of all staff in the ICU. Unsurprisingly, nurses constituted the greatest number of responses (n= 67; 80%). Seven medical staff returned

surveys which represented 8% of responses and 35% of the total medical staff working in the ICU. Three physiotherapists (4%) and two administrative staff (2%) completed the sample. Five respondents (6%) did not indicate their role within the ICU.

Seventy-seven per cent of respondents (n=65) indicated that they were satisfied with flexible visiting and over two thirds (n=58, 69%) indicated they had positive experiences (Figure 2).

Figure 2 here

Staff focus groups

Four focus group discussions were held with a total of 24 ICU staff members including nurses, doctors, receptionists, a social worker and assistants in nursing. Participants were asked their opinions of flexible visiting in the unit and what they saw as its impact, benefits and barriers to the more open visiting arrangements. A strong theme was the acknowledgement that flexible visiting was good for families and patients alike. Staff commented that with flexible visiting there was "no separation"; "decreased anxiety for family members" and "relatives appreciate being able to visit outside normal hours" for both work and personal reasons.

ICU staff considered that if they walked in the shoes of the family members they may be more able to accept the culture change of inclusivity. Some suggested that with family presence, there was the capacity to invite them to help with some of the patient care. Others suggested that having family members there allowed ongoing education and an opportunity to learn about the patient. This was seen to be a benefit by some participants and a barrier by others as they perceived it as time consuming.

Other barriers to flexible visiting were seen to revolve around the need for patient privacy and the needs of nurses. One participant stated that "relatives are always there watching you – added pressure as some families critique care". Some thought that families

needed to leave the ICU and at times: "you have to peel people away from patients –
especially stable patients" but then others acknowledged that "our version of stable is very
different to relative's". They felt that there was a "need to give permission to go home to
rest". Complex family dynamics were felt to be unaffected by the visiting policy "families we
have trouble with, we will always have trouble with". Another highlighted that the increased
flexibility of visiting hours worked in a positive way for some families with relationship
issues as it "allows conflicting relatives greater time and flexibility to miss each other".

DISCUSSION

This study adds to the existing body of knowledge in the area of ICU patient and
family needs from a multi- dimensional perspective. Patients, families and ICU staff
considered greater access to patients (by their relatives) was beneficial and enabled greater
opportunities for communication – a recognized and reported family need that is frequently
unmet [1, 10, 11]. Patients in this study found having visitors to be of enormous benefit rather
than being disruptive as identified in a previous study [37]. Around 80% of family visits
occurred during what was the pre-intervention visiting hours (between 11am and 8pm). The
predominance of visiting between these hours is similar to other studies [2]. However, one
quarter of family-visits occurred outside previous visiting hours indicating families took
advantage of the increased hours as a way to meet their own needs.

It is important to strive to meet family members' needs. It is now well recognised that
they may have acute and on-going psychological compromise after having a relative in ICU
[4-6, 38-43]. This may occur as a result of family members being asked to make surrogate critical
decisions and to provide on-going care after discharge [44]. In a study focussing on family
members and decision-making, three quarters of family members experienced symptoms of
anxiety and a smaller percent experienced depression (35%) after having a relative in ICU
[45]. These symptoms persisted and in a study across 21 French ICUs [41], 90 days after

discharge a third of the family members had a moderate to major risk of developing post-traumatic stress disorder [41]. Those family members who felt they had not been given adequate information experienced significantly higher rates of post-traumatic stress reaction than those who had adequate information.

In the current study, around three quarters of ICU staff reported being satisfied with the new visiting arrangement and this may have been related to their positive experiences and an understanding that family members need to be near their sick relative [30, 46]. In addition, there were clear visiting guidelines which are advocated by both the American [4] and English professional nursing associations [28].

The challenge for some nurses in balancing patient and family care is similar to findings by others and remains an ongoing genuine concern for some nurses who hesitate to provide patient care when family members are present [22, 43, 47-49]. The nurses' need for privacy may be a reflection of their lack of ICU experience and they may benefit from support by senior colleagues who role model family inclusion and family- centred approaches to patient care [50]. An identified important aspect of having family present is the ability of families to help the staff 'know' the patient and individualise their care [29].

Nurses' confidence in providing care with family members present is important as they play a crucial part in helping family members interact with their sick relative. Family members fear touching and potentially interfering with their relative's treatment [51]. However, when supported, visiting family members are able to make significant contributions by partnering with nurses in patient care [4, 31, 52, 53] but it needs to be recognised that not all family members want to participate in this way [54].

Findings from this study and others [55-57] indicated families were satisfied with the level of care provided but there was room for improvement as all results were below the 'very good' or 'excellent' scores [32, 33]. Although one could argue that there is a lack of ability to

discriminate using ICU satisfaction surveys, they can provide an important assessment of family feedback over time for a particular unit. In the current study one item scored significantly lower in the second time period in relation to the environment in the ICU Waiting Room. In response to these results and further consultation, the waiting room was redesigned with new furniture and layout.

The other significant result indicated that family members were significantly more satisfied with the level or amount of health care their relative was receiving following the increase in visiting hours ($p<0.01$). It may be that families were present for longer and more periods of time, during which they were able to appreciate the highly specialised care their sick relative received. Further exploration of this via family interviews is recommended.

Strengths and Limitations

This study examined flexible visiting from the perspective of key stakeholders (patients, families and staff) thus providing a comprehensive understanding of its impact [58]. It is limited by the fact that it was trialled in one adult ICU using convenience samples. The survey responses may not be a reflection of non-respondents. Families were not able to visit during the primary doctors' rounds which decreased communication opportunities. The addition of interviews with family members would have supplemented the survey responses. It is not known how diligently ICU staff accommodated the flexible visiting arrangements in practice.

CONCLUSIONS

Flexible visiting was successfully introduced into an Australian adult ICU with family visiting permitted for 21 hours daily. This enabled families to connect and support critically ill patients who reported wanting the additional time with their family. Patients' needs

remained paramount but every opportunity to include family should be taken as it has the potential to enhance communication. Staff that are tentative regarding family presence can be supported by clear guidelines and experienced clinicians role modelling family inclusion. Flexible visiting provides a way forward to improve critically ill patient care and recognises its importance to families and patients in their illness recovery.

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Table 1 – Family satisfaction (FS-ICU survey) – before and after flexible visiting

(value range 0-100)

Item	Before Flexible Visiting (n=41) Mean (SD)	After Flexible Visiting (n=140) Mean (SD)	P value
Care subscale			
1 Care by ICU staff	74.5 (1.1)	73.4 (15.1)	0.99
2 Symptom m'ment - pain	75.0 (9.9)	71.4 (15.7)	0.25
3 Symptom m'ment - resp	73.5 (14.2)	72.2 (14.1)	0.41
4 Symptom m'ment - agitation	72.4 (12.8)	69.0 (16.8)	0.29
5 Consider your needs	64.5 (22.4)	65.0 (19.7)	0.80
6 Provide emotional support	59.5 (23.7)	63.7 (20.3)	0.37
7 Coordination of care	67.5 (21.1)	68.8 (18.1)	0.99
8 Care for you	65.5 (22.2)	66.8 (20.3)	0.85
9 Nurses competence	72.3 (15.6)	72.5 (14.4)	0.99
10 Nurses communications	65.6 (21.0)	66.7 (19.6)	0.93
11Physicians competence	72.8 (10.7)	71.5 (13.9)	0.85
12 Physicians communications	56.4 (27.1)	57.5 (24.1)	0.97
13 Social workers support	64.7 (26.6)	63.1 (22.2)	0.34
14 Physiotherapist care	68.9 (13.9)	67.7 (17.0)	0.94
15 Allied health care	72.3 (13.0)	66.8 (18.1)	0.31
16 Atmosphere in ICU	68.1 (14.5)	62.9 (19.4)	0.18
17 Atmosphere in waiting room	**63.7 (20.7)**	**55.6 (22.1)**	**0.03***
18 Satisfaction with amount of care	**45.7 (22.2)**	**71.0 (13.8)**	**<0.01***
Total Care	70.3 (13.0)	69.8 (14.4)	0.98
Decision making sub-scale			
1 Ease of getting information	65.5 (22.2)	66.8 (18.2)	0.83
2 Understanding information	66.1 (20.2)	67.5 (17.5)	0.89
3 Honesty of information	65.0 (21.0)	65.3 (20.3)	0.98
4 Completeness of information	64.4 (22.5)	65.0 (20.0)	0.95
5 Consistency of information	59.4 (25.4)	61.7 (22.7)	0.80
6 Inclusion in decision making	56.6 (25.0)	56.0 (26.0)	0.98
7 Support in decision making	58.3 (22.9)	57.6 (22.0)	0.82
8 Control over patient care	50.6 (24.7)	51.7 (22.8)	0.86
9 Adequate time for questions	63.0 (33.2)	67.7 (28.9)	0.43
Total DM	64.7 (21.2)	65.1 (19.2)	0.82
FS Total	64.6 (20.3)	68.2 (17.2)	0.30

Scoring: completely satisfied /excellent = 100; very satisfied/very good = 75; mostly satisfied/good = 50; slightly dissatisfied/poor = 25, and very dissatisfied/very poor = 0 [32, 33] *P<0.05

Table 2: Patients' demographic characteristics and perceptions of flexible visiting

| Item	Frequency (n = 12)
Sex	
Male	8
Female	4
Age in years	
< 35	3
36 - 50	1
51 - 65	2
>65	6
Length of stay in ICU	
Short term (<3days)	7
Long term (≥3 days)	5
Admission type	
Emergency	7
Elective	5
Ethnicity	
Indigenous Australian	1
Non-Indigenous	11
Reside	
Outside metropolitan area	5
Inside metropolitan area	7
Family members' visits	
More visits wanted	2
Just right	10
Less visits wanted	0
Is flexible visiting a good idea?	
Yes	12
No	0
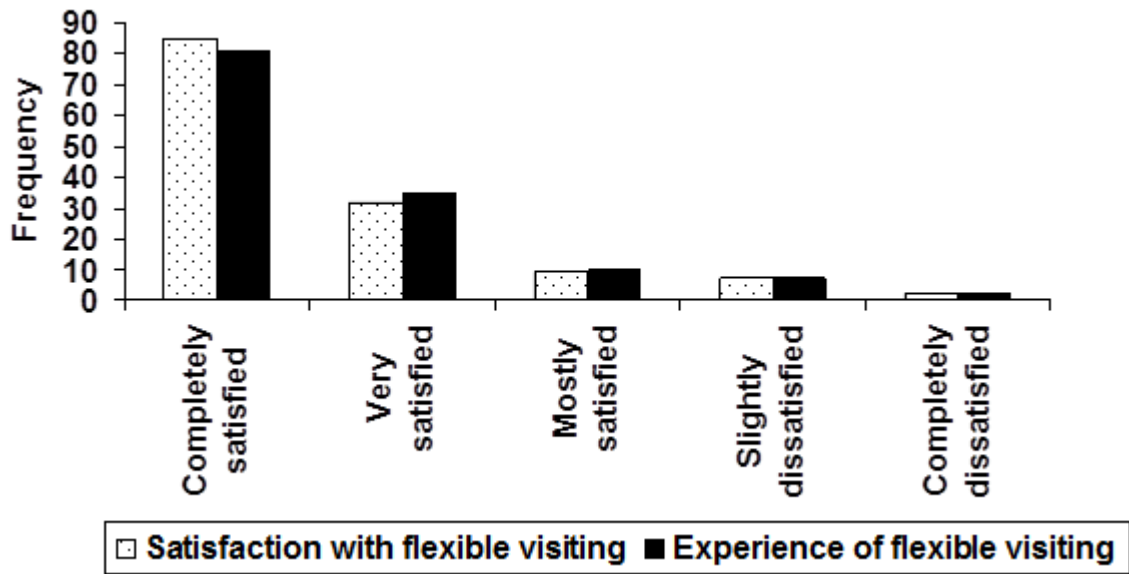
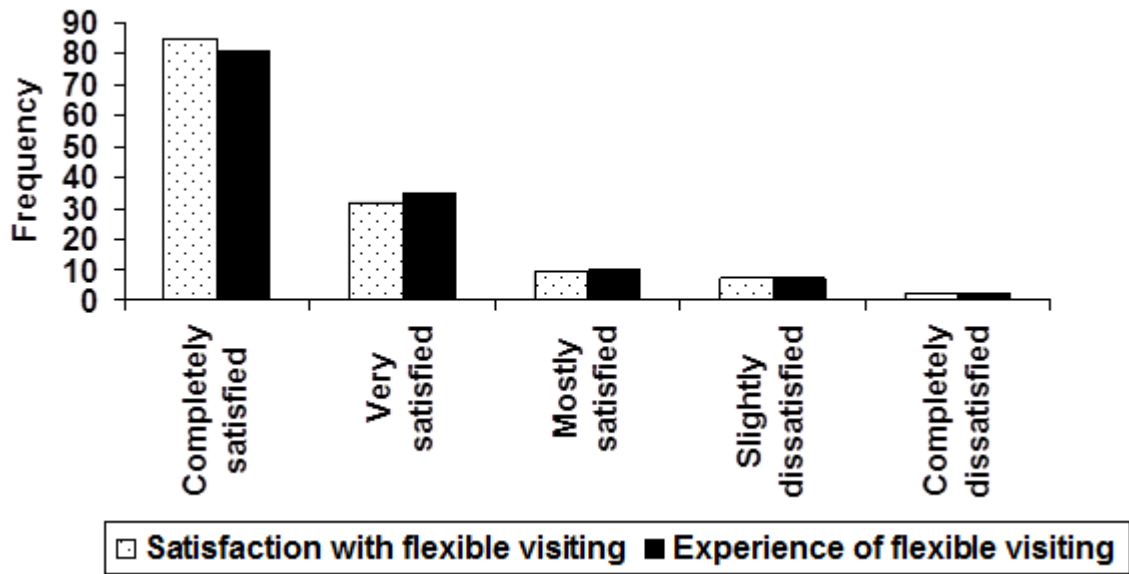Figure 1: Families' satisfaction and experience of flexible visiting (n=135)

Figure 1: Families' satisfaction and experience of flexible visiting (n=135)

Guidelines for ICU Families on Flexible Visiting Hours

- Flexible visiting hours are operating in ICU as a trial

- ICU will be closed to family and friends from between 8am and 11am each day to allow for doctors' ward rounds

- Visiting may occur at other times in consultation with the nursing staff

- Two visitors at a time are permitted

- At times, due to procedures or treatments, you may be asked to wait outside in the Waiting Room

- The hospital's front door is locked at 8.30pm each night and opens again at 5.30am. Should you wish to visit between these times

    o You will need to park in the street or in the public car park (opposite the hospital) as the on-site public parking closes at 10pm. There is no parking in the hospital grounds and parking tickets will be issued for all infringements

    o You will need to enter the hospital via the Emergency Department.

    o You need to be prepared to give your name and the name of the relative you are visiting in ICU to the security guard or nurse in the Emergency Department.

    o You need to go straight to ICU once directed to do so by security.

    o If you are speaking with your relative's nurse, let them know if you intend visiting during these hours so they know to expect you

- Please be aware we do not have sleeping facilities within the ICU or Waiting Room.

- The hospital cafeteria closes at 7pm. and only snack food is available from a machine outside the ICU Waiting Room after this time.

Guidelines for ICU Staff on Flexible Visiting

- ICU is trialling Flexible Visiting hours for family members to promote family-centred care, patient and family satisfaction

- CCU will be closed to family and friends between 8am and 11am each day to allow for doctors' ward rounds

- Visiting may occur at other times in consultation with the nursing staff

- Two visitors at a time are permitted

- At times, due to procedures or treatments, you may ask relatives to wait outside in the Waiting Room

- Families can be informed of the quieter times to visit but other times are available

- The hospital's front door is locked at 8.30pm each night and opens again at 5.30am. Should relatives wish to visit between these times please inform them of the following:

  o Visitors need to park in the street or in the public car park (opposite the hospital) as the on-site as the on-site public parking closes at 10pm. There is no parking in the hospital grounds and parking tickets will be issued for all infringements.

  o They will need to enter the hospital via the Emergency Department.

  o They need to be prepared to give their name and the name of the relative they are visiting in ICU to the security guard or nurse in the Emergency Department.

  o All visitors must go straight to ICU once directed to do so by security.

  o If your patient's family indicated they are coming to visit after hours, please contact security on xxxx so they know to expect them.

- The length of time the relative/s visit is to be documented in the computer field for Visitors.

End of guidelines