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Perception of Intensive Care Unit Nurses toward Family Engagement in Patients' Care

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Abstract*: Family engagement means active partnerships between health care providers' families. Family engagement in ICU takes different forms depending on the needs of critically ill patients. Families could be engaged in the tangible and the intangible aspects of critically ill patients' care. Family engagement can improve patients' outcomes, reduce family anxiety and enhance family members' satisfaction in addition to reducing patient's stress and anxiety, lowering delirium prevalence, reducing length of hospital stay, enhancing patients' satisfaction and experience with care. Many research studies focus on the intangible aspect of family participation in patient care. There is a remarkably little research that investigate family members' contribution to care in the ICU. Therefore, the aim of this study was to examine perception of ICU nurses toward family engagement in patients' care. Methods: a cross-sectional, descriptive research design was used in this study in which one instrument was used to assess the perception of ICU nurses toward family engagement in patients' care. The subjects were comprised of all ICU nurses who had previous experience for at least one year from 8 ICUs in 2 selected university hospitals. Results: patients' hygiene is the top reported aspect of engagement followed by oral feeding, distraction activities and assisting with ambulation. These are reported respectively by 62.05%, 60.33%, 56.89%, and 49.13% of the studied nurses in all ICUs. The least reported aspect of family engagement in all ICUs (2.58%) is the oral care. Conclusion: Families are involved in the tangible and the intangible aspects of patients care in ICUs but they are involved more in the intangible aspects of patients care. Recommendations: There is a need to establish polices, procedure, and protocols for family engagement in ICUs. An assessment tool to determine family willingness to be actively participating in their patients' care and the aspects of care they can be engaged in should be available.

***Keywords*: ICU patient's family – ICU nurses – Family engagement – Family-centered care- ICU liberation.**

1. INTRODUCTION

In the past, present and even in the future, intensive care units (ICUs) worldwide continuously adopt critical care nursing practices to achieve the optimal level of comfort and safety for critically ill patients. The American association of critical care nurses, (2015) updated its scope and standards for critical nursing practice to include a patient- and family-centered healthcare system[1]. From ICU admission till discharge, critically ill patients and their families confront multiple challenges and stressors. The ICU is a complex clinical setting, where the focus is on the physical needs of patients with less attention given to their family requirements. Clinical and technical proficiencies are viewed as essential components for nurses working in the ICU. Psychological needs fulfillment has a low priority in comparison to the physical needs of the patients. Critically ill patients' family always feels helpless due to inadequate knowledge about the illness, prognosis and outcomes[2].

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Family engagement means active partnerships between health care providers and patients' families. Family engagement in ICU takes different forms depending on the needs of critically ill patients. Families could be engaged in the tangible and the intangible aspects of critically ill patients' care. Tangible aspects include participating in daily living activities such as oral care, shaving, and hygiene; assisting with mobility activities such as range of motion exercises, assisting with ambulation and repositioning; and other activities such as oral feeding, compresses application, and massaging. [3, 4] The intangible aspects of patients' care include family presence during resuscitation, emotional, moral and social support, in addition to decision making regarding treatment strategies [5-8].

Family engagement can improve patients' outcomes, reduce family anxiety and enhance family members' satisfaction in addition to reducing patient's stress and anxiety, lowering delirium prevalence, reducing length of hospital stay, enhancing patients' satisfaction and experience with care [5, 9-13].

One of the obstacles that impede the presence and support of the ICU patients' family is the restricted visiting hours so their responsibilities were only offered to suite that time. Several research studies focus on giving more time to visiting hours to let the family be more involved in patient care [14-19]. Nurses' perception and attitude toward family engagement is an important aspect to be studied as it can shape the conditions of family engagement.

A number of international studies suggest that critically ill patients' families are not only important for the patients but for the ICU nurses as well [3, 20-22]. Many research studies focus on the intangible aspect of family participation in patient care. There is a remarkably little research that investigate family members' contribution to care in the ICU [23-25] which is highlighted in this study as a tangible aspect of patient care. There are also few studies which examine the barriers and the facilitators to family engagement in ICU [9, 26, 27].

The family engagement and empowerment component is added to the ABCDE bundle to become ABCDEF bundle for further improving the quality of ICU care. The letter "F" is recently added to involve the family in decision-making and in care activities as lack of family engagement is a well-known risk factor for delirium in ICUs [16, 28]. This concept is supported with a study of Rosa et al (2017) who have extended the visitation hours for family members and found that this strategy halved not only the delirium incidence, but also its length[18].

There are no specific policies or regulations regarding participation of critically ill patients' family in care so nurses in Egyptian ICUs do not have a clear idea about the best practices of family engagement taking into consideration patient safety. The ICU nurses are caring for critically ill patients 24 hours a day. Implementation of family involvement plan might be affected by nurses' perception and attitude toward family engagement. So, it is needed to examine perception of ICU nurses toward family engagement in patients' care which is the aim of the current research.

2. AIM OF THE STUDY

To determine perception of ICU nurses toward family engagement in patients' care

3. RESEARCH QUESTION

What is the perception of ICU nurses toward family engagement in patients' care?

4. MATERIALS AND METHOD

Materials

Research design and sampling

This is a cross-sectional, descriptive research design which was conducted in eight ICUs; 3 general ICUs, 3 medical ICUs and 2 surgical ICUs in 2 selected university hospitals in Alexandria, Egypt with a total bed capacity of 58 beds. All ICU nurses who had previous experience in the previously mentioned ICUs for at least one year (116 nurses) were included in this study. Nurses who had an experience less than one year in the previously mentioned ICUs were excluded from the study.

Instrument

To assess perception of ICU nurses toward family engagement in patients' care, a questionnaire was developed by the researchers after reviewing the literature [2, 29-32]. It includes 2 parts. Part 1 nurses related date; age, sex, and ICU experience. Part 2 includes 6 questions about the current state of family engagement in ICUs. The questions are about the

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level of family engagement, aspects of family engagement (family contributions), family members criteria influencing nurses' willingness to include family members in care, patients included in family engagement, benefits of family engagement, and barriers to family engagement. Level of family engagement is assessed using numeric rating scale from 0 to 10 where 0-2 (families are not present or involved), 3-5 (family engagement and empowerment is just getting started), 6-8 (families are engaged, there is an open visiting and starting inclusion of families in medical rounds), and 9-10 (families are daily involved in medical rounds). Other questions are multiple choice. The questionnaire was translated into colloquial Arabic language by translation back to translation method. Content validity of the questionnaire was done by 7 experts in critical care nursing; ICU nurses who had previous experience for providing bedside nursing in ICUs, faculty members specialized in critical care nursing. Reliability of the questionnaire was tested using Cronbach's coefficient alpha (0.72).

Data collection

A permission to conduct this study was obtained from hospital responsible authorities after explaining the aim of the work. A pilot study was conducted on 12 nurses working at the previously mentioned ICUs. To assess the clarity and applicability of the study tool. The questionnaire sheet was introduced to the studied nurses at their break time in the nurses' room. The questionnaire sheets were collected immediately after completion of the same shift. Data collection was done from November 2017 to February 2018.

Statistical analysis

First, descriptive statistical analysis for all study variables was conducted. Statistics were conducted using SPSS version 20.

Ethical consideration

The current study was approved by the research ethics committee of the faculty of nursing, Alexandria University, Egypt. Participation in this study was voluntary. Participants were informed of their right to withdraw from the study at any time. An informed consent was obtained from each of the included nurses after explaining the aim of the study. Nurses' confidentiality, anonymity, and privacy were ensured during the study.

5. RESULTS

Table I shows that most of the studied nurses in the general (87.8%), medical (71.8%), and surgical ICUs **(**88.9%**)** are females. The mean age of the studied nurses is 30.3 ± 7.8 years. The mean years of experience in ICU is 9.75 ± 7.8 years.

Table I: Distribution of the studied ICU nurses by their characteristics

Nurses' characteristics		ICUs							
		General ICU N= 41		Medical ICU N= 39		Surgical ICU N= 36		Total N= 116	
		no.	%	no.	%	no.	%	no.	%
Sex	Male	5	12.2	11	28.2	4	11.1	20	17.2
	Female	36	87.8	28	71.8	32	88.9	96	82.8
Age	20-	21	51.2	28	71.8	15	41.7	64	55.2
	30-	16	39.0	5	12.8	16	44.4	37	31.9
	40-	4	9.8	6	15.4	5	13.9	15	12.9
Mean ± SD		30.3 ± 7.8							
Years of Experience	<10	20	48.8	29	74.4	15	41.7	64	55.2
	10-19	12	29.3	9	23.1	12	33.3	33	28.4
	20+	9	22.0	1	2.6	9	25.0	19	16.4
Mean ± SD		9.75 ± 7.8							

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Figure I shows that 35.34%, 33.62%, 31.03% of the studied nurses are working in the General, Medical, surgical ICUs respectively.

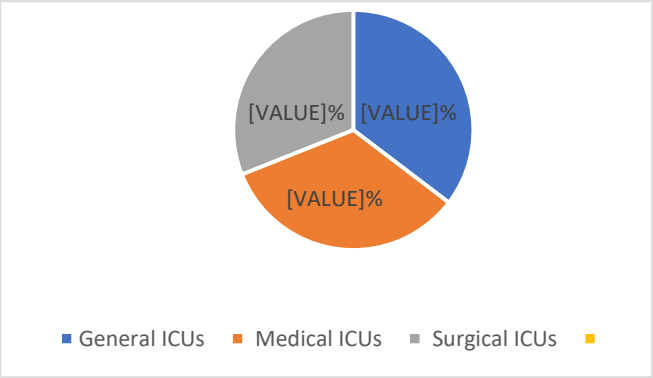

Figure I: Distribution of the studies ICU nurses according to area of work

Table II shows that, the largest percent (51.72%) of the studied nurses reported a family engagement score ranging from **3 to 5**. The mean value of family engagement score reported by all of the studied nurses is 4±1.9. These values indicates that family engagement at these ICU is just started.

Table II: Distribution of nurses reported level of family engagement at their units

Level of family engagement	General ICU N= 41		Medical ICU N= 39		Surgical ICU N= 36		Total N= 116	
	no.	%	no.	%	no.	%	no.	%
0-2 families are not present or involved	16	39.02	8	20.51	14	38.88	38	32.75
3-5 family engagement and empowerment is just started	19	46.34	19	48.73	22	61.12	60	51.72
6-8 families are engagement, open visiting and starting families inclusion in medical rounds	6	14.64	12	30.76	0	0	18	15.51
9-10 families are daily involved in medical rounds	0	0	0	0	0	0	0	0
Mean ± SD	4±2.4		4.76 ±1.85		3.08±1.44		4±1.9	

Table III shows the tangible and the intangible aspects of family engagement in ICUs. Concerning the tangible aspects, this table shows that, among the daily living activities, patients' hygiene is the top reported aspect of family engagement. It was reported by 62.05% of the studied nurses. Assisting with ambulation is the most commonly reported aspect of family engagement in relation to patients' mobility. It was reported by 49.13% of the studied nurses. Distraction (listening to music, watching TV, and reading) is the most commonly reported aspect of family engagement in patients' comforting and stimulation activities. It was reported by 56.89 % of the studied nurses. Also, 60.33% of the studied nurses reported family engagement in oral feeding. Only 2.58 % of the studied nurses reported involving family members in oral care. In relation to the intangible aspects of family engagement in ICUs, this table demonstrates that, all of the studied nurses reported that patients' families are engaged in social and moral support, psychological support, bringing requirements and accompanying patient during transport.

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Table III: Distribution of nurses reported aspects of family engagement in ICUs

Aspects of family engagement		General ICUs N= 41		Medical ICUs N= 39		Surgical ICUs N= 36		Total N= 116	
		no.	%	no.	%	no.	%	no.	%
Tangible	**Daily living activities**								
	Oral Care	0	0.00	3	7.69	0	0	3	2.58
	Shaving	0	0.00	10	25.64	17	47.22	27	23.27
	Hygiene	21	51.22	23	58.97	28	77.77	72	62.05
	Mobility								
	Range of Motion exercises	14	34.15	20	51.28	5	13.89	39	33.61
	Assist with Ambulation	17	41.46	20	51.28	20	55.56	57	49.13
	Repositioning	4	9.76	4	10.26	2	5.56	10	6.88
	Comforting / stimulation								
	Pillow Repositioning	19	46.34	20	51.28	17	47.22	56	48.26
	Massage	5	12.20	5	12.82	1	2.78	11	9.48
	Distraction- Music, TV, Reading	20	48.78	25	64.10	21	58.33	66	56.89
	Others								
	Oral Feeding	27	65.85	21	53.85	22	61.11	70	60.33
	Compresses	4	9.76	0	0.00	0	0.00	4	3.44
Intangible	Decision making	39	95.12	36	92.31	34	94.44	109	93.96
	Social and moral support	41	100.00	39	100.00	36	100.00	116	100.0
	Psychological support	41	100.00	39	100.00	36	100.00	116	100.0
	Bringing requirements	41	100.00	39	100.00	36	100.00	116	100.0
	Accompanying patient during transport	41	100.00	39	100.00	36	100.00	116	100.0

Table IV Depicts that the majority of the studied nurses; 97.4%, 95.68%, and 93.09% reported emotional stability /self-control, cooperation, and readiness/ willingness to share in patients' care respectively as a family member criteria influenced nurses' willingness to engage them in patients' care. Health literacy and ability to share are reported by a lesser percent (74.98 % and 66.36 % respectively of the studied nurses.

Table (IV): Distribution of nurses reported family members' criteria influenced nurses' willingness to engage family in patients' care

Criteria of family members engaged in patient care	General ICU N= 41		Medical ICU N= 39		Surgical ICU N= 36		Total N= 116	
	no.	%	no.	%	no.	%	no.	%
Cooperative	39	95.12	37	94.87	35	97.22	111	95.68
Emotionally stable / Self control	40	97.56	38	97.44	35	97.22	113	97.4
Readiness/ willingness to share	37	90.24	36	92.31	35	97.22	108	93.09
Health literacy	38	92.68	30	76.92	19	52.78	87	74.98
Ability to share (time & health status)	36	87.80	19	48.72	22	61.11	77	66.36

Table V illustrates that 81.89 % of the studied nurses reported that pediatric patients in adult ICU are eligible for family engagement in ICUs. A 65.51% of them reported that conscious/ stable and the agitated patients are also eligible. Only 4.31% of them reported that mechanically ventilated patients are eligible for family engagement in ICUs.

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Table (V): Distribution of nurses' reports about patients their families engaged in their care

Patients eligible for family engagement	General ICU N= 41		Medical ICU N= 39		Surgical ICU N= 36		Total N= 116	
	no.	%	no.	%	no.	%	no.	%
Conscious/ stable	37	90.24	29	74.36	10	27.78	76	65.51
Pediatrics	27	65.85	36	92.31	32	88.89	95	81.89
Agitated	15	36.59	27	69.23	34	94.44	76	65.51
Elderly	15	36.59	27	69.23	33	91.67	75	64.65
Terminally ill	4	9.76	18	46.15	26	72.22	48	41.37
Mechanically ventilated	3	7.32	2	5.13	0	0.00	5	4.31

Table VI illustrates that the largest percent (60.34 %) of the studied nurses reported maintaining privacy as patient related benefit of family engagement in ICUs. 89.32 % and 75.84 % of the studied nurses reported improvement of health outcome and decrease workload as nurse related benefit of family engagement in ICUs respectively. 93.1 %, 93.09 % and 85.34 % of the studied nurses reported gaining health literacy, preparation for home care / cost containment after discharge and empowerment respectively as family related benefit of family engagement. Only 6.03 % of them reported reducing distress and inspiring hope as family related benefit of their engagement.

Table VI. Nurses reported benefits of family engagement in patient care in ICUs

	General ICU N= 41		Medical ICU N= 39		Surgical ICU N= 36		Total N= 116	
The benefits of family engagement	**no.**	**%**	**no.**	**%**	**no.**	**%**	**no.**	**%**
Patient								
Reassurance	6	14.63	1	2.56	5	13.89	12	10.34
Maintaining privacy	10	24.39	30	76.92	30	83.33	70	60.34
Enhancing cooperation	2	4.88	5	12.82	2	5.56	9	7.202
Nurse								
Improvement of health outcome	33	80.49	35	89.74	35	97.22	103	89.32
Building trustful relationship	6	14.63	31	79.49	22	61.11	59	50.85
Decrease Workload	33	80.49	31	79.49	24	66.67	88	75.84
Family								
Meeting information need	15	36.59	33	84.62	29	80.56	77	66.37
Gaining Health literacy	35	85.37	39	100.00	34	94.44	108	93.1
Preparation for home care / Cost containment after discharge	35	85.37	38	97.44	35	97.22	108	93.09
Empowerment	30	73.17	35	89.74	34	94.44	99	85.34
Reducing distress & Inspiring hope	4	9.76	2	5.13	1	2.78	7	6.03

Table VII displays that benefits of family engagement in their ICUs. The largest percent (82.75 %) of the studied nurses reported lack of resources (training & supervision) as a unit related barrier for family engagement. The largest percent (81.02 %) of the studied nurses reported that considering engagement could harm the patient/ infection as a nurse related barrier for family engagement. All of the studied nurses reported high acuity of patients' conditions as family and patient related barrier to family engagement in ICU. Also, 92.23% of nurses reported family members' negative previous experience during engagement as family and patient related barrier.

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Table VIII. Nurses reported barriers of family engagement in patient care in ICUs

Family engagement barriers	General ICU N= 41		Medical ICU N= 39		Surgical ICU N= 36		Total N= 116	
	no.	%	no.	%	no.	%	no.	%
Unit barriers								
Restrictive hospital visiting policies	29	70.73	33	84.62	33	91.67	95	81.88
Lack of resources (training & Supervision)	32	78.05	34	87.18	30	83.33	96	82.75
Lack of support to family involvement	32	78.05	32	82.05	22	61.11	86	74.12
Nurses' barriers								
Considering engagement as increases nurses' workload	14	34.15	21	53.85	21	58.33	56	48.26
Considering engagement as invasion of privacy	18	43.90	30	76.92	24	66.67	72	62.05
Considering all tasks as nurses' responsibility	9	21.95	11	28.21	28	77.78	48	41.36
Nurses previous experience with family involvement	11	26.83	15	38.46	27	75.00	53	45.68
Considering engagement could harm the patient/ infection	32	78.05	30	76.92	32	88.89	94	81.02
Family and patients' barriers								
Lack of awareness and health literacy	30	73.17	35	89.74	30	83.33	95	81.89
Negative previous experience	39	95.12	35	89.74	33	91.67	107	92.23
Exaggerated responses	11	26.83	21	53.85	27	75.00	59	50.85
High acuity of patient conditions	41	100.00	39	100.00	36	100.00	116	100

6. DISCUSSION

The ICU is a complex, stressfull clinical environment which receives patients with complex health problems[33]. Critical care nurses are aware of the role of the family members in caring for their patients. Some nurses do not allow the family members and significant others to be engaged in patient care because they may consider involvement as a factor hindering their work acheivement [9, 26]. On the other side, some nurses do allow family members to be engaged in patient care. Shortage of ICU staff led to the tendency to engage family members into patients care[34]

Despite the worldwide repoted benefits of family engagement in critically ill patients' care [18, 34-40]. The current study findings depict that a high percent of nurses reported that family engagement is just started in their unit. Moreover, all nurses reported that families are not involved in medical rounds. This may be attributed to that, there is no established guidelines and policies defining and regulating the implemention of family engegemnt. This is against what has been recommended by the American College of Critical Care Medicine[29].

Findings of the current study show that, a high percent of the studied nurses reported that families are engaged in hygenic care and oral feeding of their patients. These findings may be due to considering patients' hygeine as a task. Oral feeding is a time consuming procedure and there is a shortage of ICU staff so they allow family members to be engaged in. This study findings reveals that the lowest percent of the studied nurses reported family engagement in oral care. This may be due to that, ICU nurses may consider oral care as a procedure which may endenger patients saftey specifically for those who are orally intubated where it might result in accidental extubation. These findings are supported by Hetland B. et al. study which concluded that nurses invite family members to perform simple tasks to their patients such as putting lotion, washing the patients' hands were most likely but the same study was agaist the current study findings as nurses invited patients to perform oral care [26]. This study also revealed that a highest reported procedure to be performed by family members is oral feeding. This is congruent with the current study finding. On the contrary, McConnell B & Moroney T study revealed that the majority of nurses did not prefer involvement of family members in care activities because this may increase their stress levels due to the poor health conditions of their patients[32].

This study results demostrates that many nurses reported that family members can be engaged in mobility activities either range of motion exercise or assiting patients with ambulation if the patient can walk. This might be due to the simplicity of the procedure wheras the minority of nurses do not report engaging the patients' family members in repositioning and this might be due to nurses' fear of accidental decannulation or extubation. Almost half of the nurses in Hetland B. et al. study invited patients to engage in repositioning[26] which contadicts the current study findings.

Regarding the intangible aspect of family engagement such as decision making, social, moral and psychological support, bringing requirement, and accompanying patient during transport. All of the studied ICU nurses reported that, it is a part of family member engagement in patient care. This might be attributed to that, nurses may consider involving family members in these duties neither hinder nurses' performance in the unit nor need close observation during implementation and may relieve patients' stress resulting in outcomes improvement. This is supported by a study conducted by Bellou, P. and Gerogianni, K G. study which highlighted the importance of family contribution in psychological support for their patients. This unrecognized contribution should be supported for better patient outcomes[41]. Participation of family members in decision making should be respected and gives them a sense of autonomy as supported by Azoulay E et al study[42].

The majority of the studied nurses reported three criteria to be fulfilled in family members who likely to be engaged in patient care which are being cooperative, emotionally stable and have willingness to participate. These findings are in line with a qualitative study conducted by Fateel E. E. & O'Neill S. C. which revealed that the family members were willing to participate in the care of their patients[2]. Patient ICU admission is a strong stressor for the family members. The family members experience may negative emotions such as anxiety, fear, anger and frustration[43]. If family members selected to care for their with patients were emtionally unstable, these emotions might be transferred to the patients which will affect patients' condition negatively. However, a lesser percentage were given to health literacy and ability to participate in care which was surperising to be reported by nurses as these criteria are very important to be fulfilled in family members who will be allowed to engage in patient care. If family members have health literacy, there will be an agreement between ICU team and family members on the goals of patient care. Moreover, it will be encouraging for them to participate in care[44]. To sum up, McConnell B & Moroney T study findings supported that the personality of family memebrs allowed to engage in patient care is very important e.g. if the family members were so intensive and loud, this would not improve patients' outcomes [32].

Findings of the current study show that the highest percentage of nurses highlighted that pediatric patients are among patients eligible for family engagement. This is true as engaging family in the decision making is a hall mark in pediatric patients' care. Family members' participation in care of pediatrics gives some reassurance and presence of family members may also facilitate implementation of patients' care tasks. These findings are supported by Stickney, C. A. et al. [45] & Yager PH et al. study [46]

However, very few number of nurses reported that families of mechanically ventilated patients are engaged in patient care which contradicts the recent studies [36, 37, 47-49] which proves that using the family members' presence could be used as a non-pharmacological management for ICU patients in general and specifically with mechanically ventilated patients which could reduce delirium, improve weaning outcomes thus reduce length of ICU stay. Additionally, the current study results reveals that more than half of the nurses reported that agitated patients are eligible for family involvement too. This finding is in line with what has been reported by the American Society of Critical Care Medicine regarding implementing the F element of the ABCDEF bundle in which family engagement decreases confusion, agitation, and anxiety thus decrease ICU length of stay. Moreover, it increases feelings of security, patient satisfaction thus improves quality of care and safety[31].

As regard the reported benefits of family engagement by nurses, the highest percent reported that it could prepare the family for home care and gain health literacy which will lead empowerment as reported by high percent of nurses too. That is because this strategy train them to perform simple tasks before discharge. This is supported by Wittenberg E study[50] and Sivanand B study[51]. A high percent of them reported that engaging the family will improve health outcomes which is congruent with many studies [9, 11, 12, 52]. The majority of nurses reported that unit barriers such as visiting policies in addition to lack of supervision could hinder engaging family members in patient care which is in line with Bélanger L study[9]. Regarding nurses' barriers, the majority of nurses reported that engaging patient family members in care could

harm the patient safety which is against other the findings of other studies[53]. Khosravan S et al study is in line with the current study findings as it rationalized that patients received unskillful and unprofessional care[13]. The majority of them also reported that negative previous experience of the patient and family and lack of health literacy could hinder family engagement as they will be hesitated to be engaged in patient care due to lack of knowledge related to health care.

7. CONCLUSION AND RECOMMENDATIONS

Family engagement in the intensive care units is just started. Families are involved in the tangible and intangible aspects of patients care but they are involved more in the intangible aspects of patients care. Tangible aspects of family engagement differ from the general, medical and surgical ICUs. Nurses' willingness to engage family in patients care is influenced by certain criteria; emotional stability / self-control, cooperation, and readiness to share. Families are rarely engaged in the care of mechanically ventilated patients. Maintaining patients' privacy, improvement of health outcomes and decrease nurses' workload, health literacy, and preparation for home care are benefits of family engagement in critically ill patients care.

There is a need to establish polices, procedure, and protocols for family engagement in ICUs. An assessment tool to determine family willingness to be actively participating in their patients care and the aspects of care they can be engaged in should be available. Specific strategies supporting ICU nurses in the integration of family members into the ICU progressively are needed.

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