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RESEARCH ARTICLE

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Explaining challenges of obstetric triage structure: A qualitative study

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Abstract

Aim: The purpose of this study was to explain the challenges of the obstetric triage structure.

Design: The present qualitative research was conducted with directed content analysis approach on 21 members of the triage team and the key informant using purposeful sampling in 2018.

Methods: The method of data collection was semi-structured interviews. Then, the accuracy and rigour of the qualitative data were examined.

Results: In this study, the most important challenges in the structure of obstetric triage were identified as pattern and standard, equipment, physical space, human resource and triage procedure and process. Correction and revision in the obstetric triage structure is important to provide high-quality services. Therefore, the quality of the structure can be developed and maintained accounting for the corresponding challenges.

KEYWORDS

emergency, nurses, nursing, obstetric, structure, triage

1 | INTRODUCTION

Triage is the process of classifying and prioritizing patients based on the need for examinations. The obstetric triage unit is the hospital entry point (Angelini & Howard, 2014) and is an environment where inaccessible medical care is available in emergencies in the field of obstetric and medical care (Matteson, Weitzen, Lafontaine, & Phipps, 2008). Approximately 1.2–1.5 (in the United States) is served at obstetric triage (in many perinatal services) per birth (Paisley, Wallace, & DuRant, 2011). The purpose of triage and emergency assessment is to ensure that women, foetuses and newborns receive timely care in their clinical condition (Angelini & Howard, 2014). In the Department of Obstetrics and Gynecology, it is essential to provide high-quality midwifery triage due to the frequent referral of emergency patients (Goodman, Srofenyoh, Olufolabi, Kim, & Owen, 2017; Rashidi Fakari, Simbar, ZadehModares, & AlaviMajd, 2019).

Proper triage will increase the quality of services and enhance the efficiency (Wuerz et al., 2001). Promoting the quality of services in the emergency department requires an accurate understanding of the status quo and the analysis of the problems in this unit (Clarke, 1998), because the quality of non-standard services affects directly the health of the community (Hosseini, Tavakol, & Mashhadizadeh, 2008). Therefore, adherence to the minimum criteria in the assessment of the hospital (structural and human, service delivery) is recognized as one of the essential criteria in the evaluation of hospitals (Mehrabian, Rahbar Taramsari, & Keshavars, 2014).

The quality of health services is evaluated using the Donabedian model with dimensions of Structure, Process and Outcomes.

Improving services can be achieved in each of these dimensions (Abdelwahab, Yang, & Teka, 2017; Cohen & Shang, 2015; Donabedian, 2002). The emergency department should be structurally organized in the sense of sensitivity, and the service delivery process in this unit should be carefully considered to apply effective management in providing satisfactory services to needy clients (Kirsch, 1998).

Promoting the quality of service delivery in the emergency department requires an accurate evaluation of the status quo that needs to be addressed (Clarke, 1998). The need for a standardized system is required to determine the prioritization of the service (Rashidi Fakari et al., 2019).

Therefore, determining the structural problems and challenges in obstetric triage as an important part of the health system is considered significant and valuable. Considering that qualitative research is carried out to directly understand participants' perceptions and less studied subjects, the current study was conducted to explore the challenges of the obstetric triage structure.

2 | METHODS

The present qualitative study with a directed content analysis approach is part of a larger study. The environment of this study was educational-therapeutic hospitals affiliated to Shahid Beheshti University of Medical Sciences, Iran. The data were collected through semi-structured in-depth interviews. The samples were selected using purposeful sampling method. The samples consisted of the triage teams and the key informants in the field of obstetric triage with a different work experience, who were willing to participate in the research, with the maximum variety. In total, 21 triage performers and key informants enrolled in the study. Sampling was done after obtaining approval from the Ethics Committee and making the necessary coordination.

The interview was conducted after providing a preliminary explanation on the research objectives, obtaining consent from the participants to conduct and record the interviews and ensuring confidentiality of the information. The interview began with a general question: “What do you think about the structure of obstetric triage?”

The interviews were recorded individually. After the completion of each interview, the participants were thanked and appreciated. Immediately after completing each interview, the researcher typed interview and then encoded. The interviews lasted 20–50 min.

Various methods were used to confirm the accuracy and rigour of the qualitative data. Data acceptance was confirmed by prolonged engagement with research data, simultaneous encoding with data collection and verification of participants and the use of corrective comments by supervisors. The external peer check was used to validate the data. Meanwhile, the research implementation steps were recorded carefully, and the continuity of the research was regularly controlled with the guidance of the professors. The integration of data collected in individual, group and note-taking interviews during the study was used to enhance the reliability of information. The method of reviewing and verifying by external experts was used to confirm the data transferability (Guba & Lincoln, 1994; Lincoln & Guba, 1985).

In this study, the basis of the classification was directed content analysis (Elo & Kyngäs, 2008) based on the Donabedian model (Donabedian, 2002) and previous research available to create primary codes. After completing each interview, it was typed and then inserted into the MAXQDA12 software and encoded primarily. As the analytical process proceeded, additional codes were created, and the design of the initial codes was reviewed and reformed.

3 | FINDINGS

The participants in this study were 21 triage performers and key informants. The mean age of the participants was 39.38 years (29–52 years). The key informants had various occupations, including triage performer, emergency specialist, gynaecologist, the charge of the Department of Maternal Death, emergency department supervisor, client and caregiver, with a different work experience (average 14.47 years), from different hospitals in varied parts of Tehran.

Based on the perspective of the study participants, the most important structural challenges in the obstetric triage are five categories: the triage procedure and process (three codes), the pattern and standard (five codes), equipment (21 codes), physical space (10 codes) and human resources (12 codes). The human resources consist of three subcategories caregivers (two codes), triage performer characteristics (seven codes) and educational needs (three codes).

Table 1 summarizes the themes of the categories, subcategories and extracted codes regarding the structure challenges in the obstetric triage.

3.1 | The pattern and standard

Some participants stated that the patterns and standards are the number of standard work shifts for the triage performer, the number of triage performers, the standardization of the obstetric triage system based on the ESI system, the importance of the existence of standardized triage algorithms and protocols, and the coordination and collaboration between the different units of the hospital.

In this context, one of the participants said: “Busy and tiring work shifts often lead to a drop in the precision of people with low ability or even to bring down the speed of action due to fatigue. All of these as a chain cause impaired performance” (master's degree in Midwifery, instructor, 3 years of work experience).

Another state: “In my opinion, national ESI is a very good form for classifying. By using the full instructions, you can immediately determine the fate of the patients. I just say if there are more items in it” (bachelor's degree in Nursing, emergency supervisor, 15 years of work experience).

TABLE 1 Themes of the categories, subcategories and codes extracted from the qualitative study on challenges of obstetric triage structure

Subcategory	Secondary subcategory	Codes
Procedure and process		Importance of taking trends in triage Role of the guard in guiding the patients Leaderboards and signs from the triage
Pattern and standard		Number of standard work shifts for the triage performer Standard number of triage performer Standardization of obstetric triage based on ESI system Importance of the existence of standard triage algorithms and protocols Coordination and collaboration between different inter-hospital units
Equipment		The presence of AmniSure, emergency trolley, ample chair for the patient, obstetric triage lift, sterile gloves, speculum, oxygen capsule, Sonicaid, delivery set, resuscitation set, gynaecology bed, NST, essential drugs, sphygmomanometer, available ultrasound, available laboratory, familiar with the equipment instructions, performance and quality of equipment, check the expiry date of the medications, up-to-date equipment affecting the quality of the triage
Physical space		Triage room lighting, triage room ventilation, happy physical structure and atmosphere for the patient, monitor the patient's entry and exit to the triage, triage as an inseparable ward of the delivery block, obstetric triage in the hospital entrance, developing the physical space suitable for triage, the need for existence of rest room in the triage room, the link between the triage room and the other wards, and the importance of focusing on the triage services
Human resources	Caregivers	The need for guard and guardianship The proper waiting room for the patient's caregiver
	Triage performer characteristics	The importance of the existence of a fixed midwife in triage, triage performer certification from the ministry, social communication of triage performer affecting triage quality, triage performer motive and attitude affecting triage quality, importance of knowledge and experience of triage performer, the importance of compassion of the triage performer, and timely decision-making ability of triage performer
	Educational needs	Having trained personnel, training hazard signs for the client, passing a course of neonatal intensive care unit

One said: "We better work beyond a province. Sometimes we have to be transferred from one province to another, that is, people should be able to work together" (PhD in Reproductive Health, a charge of the Department of Maternal Death, 17 years of work experience).

3.2 | The equipment

One of the leading structural factors in lowering the quality of health care is the lack of supplies and equipment. The participants stated that the requirements and equipment needed for obstetric triage include AmniSure, emergency trolley and ample chair for the patient, obstetric triage lift, sterile gloves, speculum, oxygen capsule, Sonicaid, delivery set, resuscitation set, gynaecology bed, NST and essential drugs. In addition, familiarity with the equipment instructions in triage, the efficiency and quality of equipment in the triage, the evaluation of the expiry dates of medications in a triage and up-to-date equipment are factors affecting the quality of obstetric triage.

In this regard, one of the participants said: "The needed supplies are the maternity package, the speculum, the Sonicaid, the NST, the basic equipment for midwifery, the sphygmomanometer and so we are doing well" (associate degree in Midwifery, midwife, 28 years of work experience). Another said: "In fact, all the necessary equipment for mother and fetus resuscitation should exist" (master's degree in Midwifery, instructor, 3 years of work experience). Another said: "There should be an additional resuscitation set. The person who goes to the triage needs to have a lot of things like medications and Ambu bag and equipment for resuscitation should all be in the set" (PhD in Reproductive Health, a charge of the Department of Maternal Death, 17 years of work experience). Another said: "In short, I think equipment is important and must be up-to-date and healthy. In addition, the operator must master the use of this equipment" (master's degree in Midwifery, midwife, 5 years of work experience). "The equipment is actually an obstetric triage, so the more modern it is, the more modern services, so the quality will be better" (master's degree in Midwifery, midwife, 22 years of work experience).

3.3 | The physical space

Most midwives emphasized the role of proper physical space and standard triage in the quality of obstetric triage services and considered essential. They pointed to quality services such as lighting, ventilation, obstetric triage rest rooms and a monitor for the arrival and departure of the patient. Also, the participants stated that the physical space and of structure obstetric triage must be based on

the required standards, centred in one place, linked with other parts, closed to the hospital entrance and delivery block, with quick and easy access to triage services.

In this regard, the client said: "The color of my clothes was not good, the door and wall paint was not good, it should be happy to reduce stress" (36-year-old client, bachelor's degree). In this regard, one of the participants said: "Triage should be on the first place in terms of location, that's, there should be the first place to deal with the patient" (master's degree in Midwifery, midwife, 3.5 years of work experience). One said: "On arrival, in fact, the patient should not be faced with spatial problems such as the appearance of buildings, stairs, elevators and amenities" (master's degree in Midwifery, midwife, 22 years of work experience). One said: "The rest room is very important in the triage room, for example, we perform repeated experiments, because we work in both the emergency and the triage, we require the rest room according to our conditions. To my own style, I created a corridor between two rooms, and we enlarged the room size. The patient is entered into the triage room, then the NST room and finally the hospital room" (master's degree in Midwifery, supervisor in Gynecology and Obstetrics, 21 years of work experience). In this context, one said: "Triage is a space surrounded by everything, radiology, lab, ultrasound, cash register and reception" (bachelor's degree in Midwifery, midwife, 25 years of work experience).

3.4 | The human resources

The participants stated that caregiver, triage performer characteristics and educational needs are important and effective factors associated with human resources in providing obstetric triage services.

In this regard, the client said: "It was not a place for my caregiver and was displaced outside" (36-year-old client, bachelor's degree). In this context, one of the participants said: "Gestational diabetes mellitus, said by the patient, I do not know now if she was asking" (bachelor's degree in Midwifery, midwife, 25 years of work experience). In this context, one of the participants said: "Our emergency has many problems. Sometimes, we have a newly arrived midwife who has no clinical obstetrical vision and causes problems. Emergency midwifery must be experienced" (fellowship of Obstetrics and Gynecology, 14 years of work experience). In this regard, one said: "If the Triage Manager has a timely decision and has a professional relationship with clients, that hospital will be considered a good hospital from the point of view of the people" (bachelor's degree in Midwifery, midwife, 10 years of work experience).

One participant said: "Most people think that a specific disease is a strange condition. For example, an increase in blood sugar during pregnancy may not be thought of as a specific disease. Hypothyroidism may not be considered a specific disease because this problem is resolved by taking a pill, as the patient repeats this for several years" (bachelor's degree in Midwifery, midwife, 25 years of work experience).

3.5 | The triage procedure and process

Some of the participants mentioned the triage procedure and process as important criteria in the delivery of obstetric triage services. From the viewpoint of the participants, the importance of considering the process in the triage, the role of guardian in the guidance of clients and the signs of the client's guidance from the triage play an important role in the process of obstetric triage. In this regard, one of the participants said: "There is no momentary triage, it is necessary to follow the discharge of mother and subsequent events" (PhD in Reproductive Health, a charge of the Department of Maternal Death, 17 years of work experience). One said: "Patients can be transferred faster with the help of guards" (associate degree in Midwifery, midwife, 28 years of work experience). It was observed at the clinic: "The text below was mounted on the glass: the triage, the first question, the first answer" (clinical observations of the researcher, hospital 1).

4 | DISCUSSION

The findings of this study can help to understand the challenges of the structure of obstetric triage. The main variable in this study was the structure of the obstetric triage consisting of five categories, including the triage procedure and process, pattern and standard, equipment, physical space and human resources. The human resources included three subcategories, involving caregiver, triage performer characteristics and educational needs.

Some participants stated that the pattern and standard are made up of the number of standard work shifts for the triage performer, the number of triage performers, the standardization of the obstetric triage based on the ESI system, the importance of the existence of standard algorithms and triage protocols, and coordination and collaboration between different inter-hospital units. Some evidence has shown that untrustworthy health care and monitoring standards are the cause of the gaps in the referral of the midwifery emergency. The main protocol is the same, but the main differences in the actual process are significant ones in how it is implemented (Afari, Hirschhorn, Michaelis, Barker, & Sodzi-Tettey, 2014). The documents have shown that the use of the ESI triage system and the division of work shifts per day will lead to improved job potential and increased satisfaction of clients (Tatli et al., 2018). Studies have indicated that lack of human resources, lack of expert human resources and absence of basic rules are some of the important factors in the development of events in the emergency department (Zaboli, Malmoon, Soltani-Zarandi, & Hassani, 2018). The results proved that some of the main causes of unwanted incidents in the emergency room are the lack of timely access to individuals and professionals, unavailability of up-to-date and appropriate instructions, the absence of a team aware of all regulations, the absence of adequate or on-call staff for use at work pressures, the absence of standard equipment for identifying and preventing potential hazards, and the absence of

updated equipment to increase prognosis at incident time (Davoodi et al., 2013).

One of the leading structural factors in dropping the quality of care is the lack of supplies and equipment. Evidence has revealed that the structural factors such as the upgrading of medical equipment affect the quality of the emergency structure (Zaboli et al., 2018; Zaboli, Shokri, Javadi, Teymourzadeh, & Ameryoun, 2016). The results of the studies showed that the major shortage of equipment in the emergency structure is effective (Kotsiou, Srivastava, Kotsios, Exadaktylos, & Gourgoulianis, 2018) and the shortage of basic equipment leads to delays in triage and adverse outcomes, misconceptions and inappropriate decisions (Aloyce, Leshabari, & Brysiewicz, 2014; Fry & Burr, 2001). The use of specialized equipment is helpful in early detection of a patient's problem. On the other hand, the lack of familiarity with the instructions of the equipment will prevent detection (Cox, James, & Hunt, 2006).

Most midwives emphasized the role of proper physical space and standard of the triage in the quality of obstetric triage services and considered to be pivotal. Evidence has indicated that the triage is the first unit to be considered in the redesign of the emergency room. The physical space of the triage must be large enough for personnel, clients, equipment and entrance and exit space. In a triage space, a rest room should be considered for the patient, where should be the route directly to the laboratory. Easy access should be from triage to other therapeutic wards (McKay, 2002). Evidence suggests that the architecture of the triage space is effective on the patient's behaviour. Understanding the effect of space and the environment of the triage is important in protecting people with mental illness (Broadbent, Moxham, & Dwyer, 2014).

Some participants stated that the caregiver, the characteristics of the triage performer and the educational needs are important and effective factors associated with human resources in providing obstetric triage services. Evidence has underlined that intuition, in fact, is having a sixth sense or a natural feeling when examining the patient. Indeed, the concept of "silent competence" means the instinctive ability in this field (Cioffi, 2000). Studies recommended the routine examination of physiological information among clients with a low and reasonable priority. When the patient does not really feel well, the measures and tests should not suspend the treatment process (Gerdtz & Bucknall, 2001). According to evidence, the cause of delay in the provision of emergency services can be attributed to personnel (Cavallaro & Marchant, 2013). Another study noted that human resources and poor knowledge can be the reason for this delay (Cavallaro & Marchant, 2013; Knight, Self, & Kennedy, 2013). In addition, the structural factors can affect the quality of the emergency structure (Zaboli et al., 2016, 2018), including the determined job descriptions, human resources, physical space, skills and experience of staff, the recruitment of professional staff, training and updating of medical equipment (Zaboli et al., 2016, 2018). A study reported that the skill, competence and number of triage performers are some of the internal factors affecting decision-making in the triage. The most important action of a triage performer is the correct prioritization in a limited time and space, which requires skill, knowledge, experience, and intuition of triage performer (Andersson, Omberg, & Svedlund, 2006). Evidence emphasized the importance of high-quality decision-making skills of triage performer. It is essential to be aware of how to judge and decide (Noon, 2014). In fact, awareness is the ability to understand undetectable issues (Potter & Frisch, 2007). One study noted that poor documentation, incorrect decisions and disagreement between the triage performer and physicians were among the main challenges of the triage (Abdelwahab et al., 2017). A research published that the file writing is one of the challenges of the emergency department. Manual recording of documents and incomplete documentation are some of the negative factors affecting the quality of the hospital (Obermeyer et al., 2015).

Some participants mentioned the triage procedure and process as important criteria in the delivery of services in obstetric triage. Evidence has cleared that often more than one policy is used in the structure to direct each procedure and process in the triage. There is a relationship between the structure (the policies in the triage) and the process (the methods in the triage) (Worth, 2017). A study found that the guards are a invisible human resource to help and guide their clients. The guards have an effective role in the information and experience of the clients (Adeniji & Mash, 2016).

Finally, exploring the challenges of the obstetric triage structure can contribute to extract of the concept of the quality of the structure, including themes, standards, management, documentation and records, equipment, physical space, human resources, procedure, process and pattern. One of the limitations of research is non-committal and conservative response of some of the participants.

5 | CONCLUSION

In this study, the most important challenges in the structure of obstetric triage were identified as pattern and standard, equipment, physical space, human resource and triage procedure and process. Correction and revision in the obstetric triage structure is important to provide high-quality services. Therefore, the quality of the structure can be developed and maintained accounting for the corresponding challenges.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

ETHICAL APPROVAL

This article was approved by the Ethics Committee of Shahid Beheshti University receiving the code: IR. SBMU. PHNM.1396.1005.

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