

Review Paper

Investigating Healthcare Workers' Role in Providing Reproductive and Sexual Healthcare Services in Disasters: A Narrative Review



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ABSTRACT

Background and Purpose: It is important to offer reproductive and sexual healthcare services to improve the health of society. However, healthcare personnel lack sufficient knowledge and skills to provide such services in disasters. This study aims to investigate the role of healthcare service providers in delivering reproductive and sexual healthcare services during disasters.

Materials and Methods: This study is a narrative review conducted in five stages: Designing the research question, searching and extracting the related studies, selecting the relevant studies, developing the timetable, summarizing the data and information, and reporting the results. After extracting the keywords through the MeSH database, the studies done in Iran and abroad were checked by searching the databases, including Google Scholar, Scopus, the Cochrane Library, ScienceDirect, PubMed, Web of Science, and UpToDate. We used the different combinations of the following keywords: "Healthcare personnel," "nurses," "midwives," "service providers," "healthcare providers," "reproductive healthcare," "sexual healthcare," "sexual and reproductive healthcare," "calamity," "crisis," "disaster," and "emergency" from 2009 to 2024.

Results: Using the search strategy, 403 articles were found, and 10 studies were included in this narrative review. Regarding the reproductive and sexual healthcare services in disasters, four main categories were found: Providing educational and counseling services, planning and providing reproductive healthcare services, providing emergency services in the field of gynecology, obstetrics, and newborn care; and preventing and managing the consequences of sexual violence.

Conclusion: Regarding the many obstacles in providing reproductive healthcare services, this study can be employed to plan, design, and implement some effective interventions for providing the due services. Healthcare service providers can benefit from this review by familiarizing themselves with their role during disasters. It is hoped that the extracted results in the present study can effectively depict the role of healthcare workers in reproductive healthcare in disasters.

Keywords: Community healthcare workers, Reproductive healthcare, Sexual healthcare, Disasters

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Introduction

A disaster refers to a serious calamity and a sudden and unforeseen crisis blocking the normal functioning of society as many people get injured and the infrastructure gets destroyed. A disaster causes death or injury in the society, destroys the environment, the economy, and the resources of the society, and eventually cripples the society so that it cannot satisfy health-care-related needs and causes the individuals and the society to require domestic and foreign aid [1, 2]. Moreover, disasters are the biggest threat to life, health, security, peace, or mental well-being in society. On the other hand, disaster management can increase natural disaster-incurred healthcare outcomes. Iran is one of the most disaster-prone countries in the world, and almost every year, the country's people and resources undergo much disaster-induced damage [3]. As the [World Health Organization \(WHO\)](#) states, disasters result in numerous health-related injuries and damage to which the local system usually cannot respond. Also, the damage incurred to the healthcare infrastructure and the provision of the required healthcare services exposes people to many healthcare problems [4].

One of the significant healthcare areas is adequate access to reproductive and sexual healthcare services [5]. Reproductive healthcare is conceptualized as physical, mental, and social healthcare, not the absence of disease and disability, in all matters related to the reproductive system, function, and process [6]. In addition, reproductive healthcare also includes sexual healthcare, which in turn involves the ability to understand and perceive the risks, responsibilities, consequences, and effects of sexual performance, as well as practicing sexual restraint when necessary. Sexual healthcare also includes protection against STDs, harmful acts, and sexual violence, information about sexuality, and violence or sexual pleasure [7].

Women and girls are the most vulnerable group in society and suffer the most damage when disasters occur [8]. About 30% of women who are injured in disasters are of reproductive age (15-49 y) [9]. Various factors make women especially vulnerable in disasters and require the authorities to pay more attention to this group in such areas. The vulnerabilities include their low income, family responsibility and taking care of children, having special nutritional needs, lack of access to prenatal care and breastfeeding, inadequate legal protection for women, psychological problems, lack of assessment of women's needs in critical cases, and social and bio-

logical differences. The above-mentioned matters can have adverse effects on women's healthcare [10]. Besides, these challenges can limit women's capabilities and prevent them from participating in society and defending their rights [9]. Inadequacy or lack of access to reproductive and sexual healthcare services, especially at the time of disasters, can result in a high risk of death or infection during pregnancy and reproductive age [10]. Therefore, to prevent and reduce the incidence of such complications, the personnel and the healthcare team should be equipped with extensive information about sexual, reproductive, maternal, newborn, and adolescent healthcare, and such a team should be made up of physicians, midwives, nurses and other providers of healthcare and medical services in disasters [11]. There are few and limited studies regarding the role of reproductive and sexual healthcare service providers in disasters. Taghizadeh et al. [12] reported that to prevent and reduce maternal mortality in disasters, it is necessary to develop training courses to improve the skills and performance of midwives [12]. Also, the results of studies indicate that to have good healthcare outcomes, mothers, doctors, midwives, and nurses must have sufficient skills in responding to disasters [1, 13].

Based on the literature review, no descriptive review study was found to particularly investigate the role of service providers in delivering reproductive and sexual healthcare services in disasters. Most available studies have been conducted on a specific profession of the medical community. Therefore, it is important to provide reproductive and sexual healthcare services to improve the healthcare of society. Also, the healthcare personnel lack sufficient knowledge and skills to provide these services during disasters. Regarding our country being earthquake- and flood-prone and the disasters that are so rampant in Iran, the current study was performed to investigate the role of healthcare providers in delivering the due sexual and reproductive healthcare services in disasters. It is hoped that improving the knowledge and skills of healthcare personnel, namely, doctors, nurses, midwives, and other service providers, will take a practical step in improving people's healthcare in disasters.

Materials and Methods

This study is a narrative review carried out in four stages: Designing the research question, searching and extracting the studies related to the research, selecting the eligible studies, summarizing the data, and reporting the results.

Research question design

What is the role of the service providers in delivering the necessary sexual and reproductive healthcare services in disasters?

Searching and extracting studies related to the research

After extracting the keywords from [MeSH database](#), the studies done in Iran were checked by searching the databases, including [Barekat](#), [Iran Medex](#), [Irandoc](#), [Magain](#), [SID](#) with different combinations of the keywords, i.e. "healthcare personnel," "nurses," "midwives," "service providers," "healthcare providers," "reproductive healthcare," "sexual healthcare," "sexual and reproductive healthcare," "calamity," "crisis," "disaster," and "emergency" from 2009 to 2024. To check the studies in other countries, the researchers searched the following databases: [Google Scholar](#), [Scopus](#), the [Cochrane Library](#), [ScienceDirect](#), [PubMed](#), [Web of Science](#), [UpToDate](#), and [WHO](#) from 2010 to 2024. We used different combinations of keywords as follows: ["Nurse" OR "midwife" OR "healthcare provider's" OR "healthcare personnel's"] AND ["reproductive healthcare" OR "sexual healthcare" OR "sexual and reproductive healthcare"] AND ["humanitarian" OR "disaster" OR "crisis" OR "emergency"].

The inclusion criteria were all articles that examined the role of sexual and reproductive healthcare service providers in disasters, studies published in valid scientific journals, and access to the full text of the related articles. The exclusion criteria were the studies that did not examine the role of service providers in delivering sexual and reproductive healthcare services and the grey literature, such as the thesis and unpublished articles.

Extraction of studies according to the inclusion criteria

Using the above keywords, 408 articles were included by searching the databases and other sources. The studies were reviewed based on the inclusion criteria. As a result, 33 studies were excluded due to being duplicates. The relevant studies were selected as follows. First, the researchers prepared a list of the titles and abstracts of all the articles in the databases. After carefully reviewing the title and abstract of the articles, 375 articles were discarded because they were irrelevant to the study's purpose. If it is impossible to decide about the study after reading the title and abstract, the full text was studied. Having read the full text, 53 articles were removed due to not answering the study question. Then, the relevant articles were independently entered into the research process, and finally, 10 articles were included in the study ([Figure 1](#)).

Summarizing the data and reporting the results

After going through the abstract and the full text of the articles related to the research topic, the related information was extracted for writing. The necessary information was extracted for each study. In the end, the information obtained from the articles was classified, and the articles related to the research topic were reviewed and evaluated ([Table 1](#)).

Results

Search results

The search results in the mentioned databases are shown in [Figure 1](#). Through search in the databases ([Google Scholar](#), 210; [Scopus](#), 34; the [Cochrane Library](#), 13; [ScienceDirect](#), 45; [PubMed](#), 88; [Web of Science](#), 15; [UpToDate](#), n=3), 408 articles were extracted, among them after deleting the duplicate articles, 375 articles remained. After the title and abstract screening, 348 articles were removed. The full text of 60 articles was evaluated, and 53 studies were removed in this stage due to non-relevancy and conducted on other populations except midwives. Finally, 10 articles were included in this study ([Figure 1](#)).

The characteristics of the included studies

The characteristics of the included studies are presented in [Table 1](#). The included studies were published between 2011 and 2024. Among the 10 included studies, 4 studies were conducted in Iran, 3 in the UK, 1 in Bangladesh, 1 in Australia, and 1 was conducted in Switzerland. In all included studies, the role of midwives in providing sexual and reproductive healthcare services in crisis was assessed.

By classifying the results of studies on the role of healthcare workers in providing reproductive and sexual healthcare services in disasters, four main categories are as follows:

- A) Providing educational and counseling services,
- B) Planning and providing reproductive healthcare services,
- C) Providing emergency services in the field of gynecology, obstetrics, and newborn care,
- D) Preventing and managing the consequences of sexual violence.

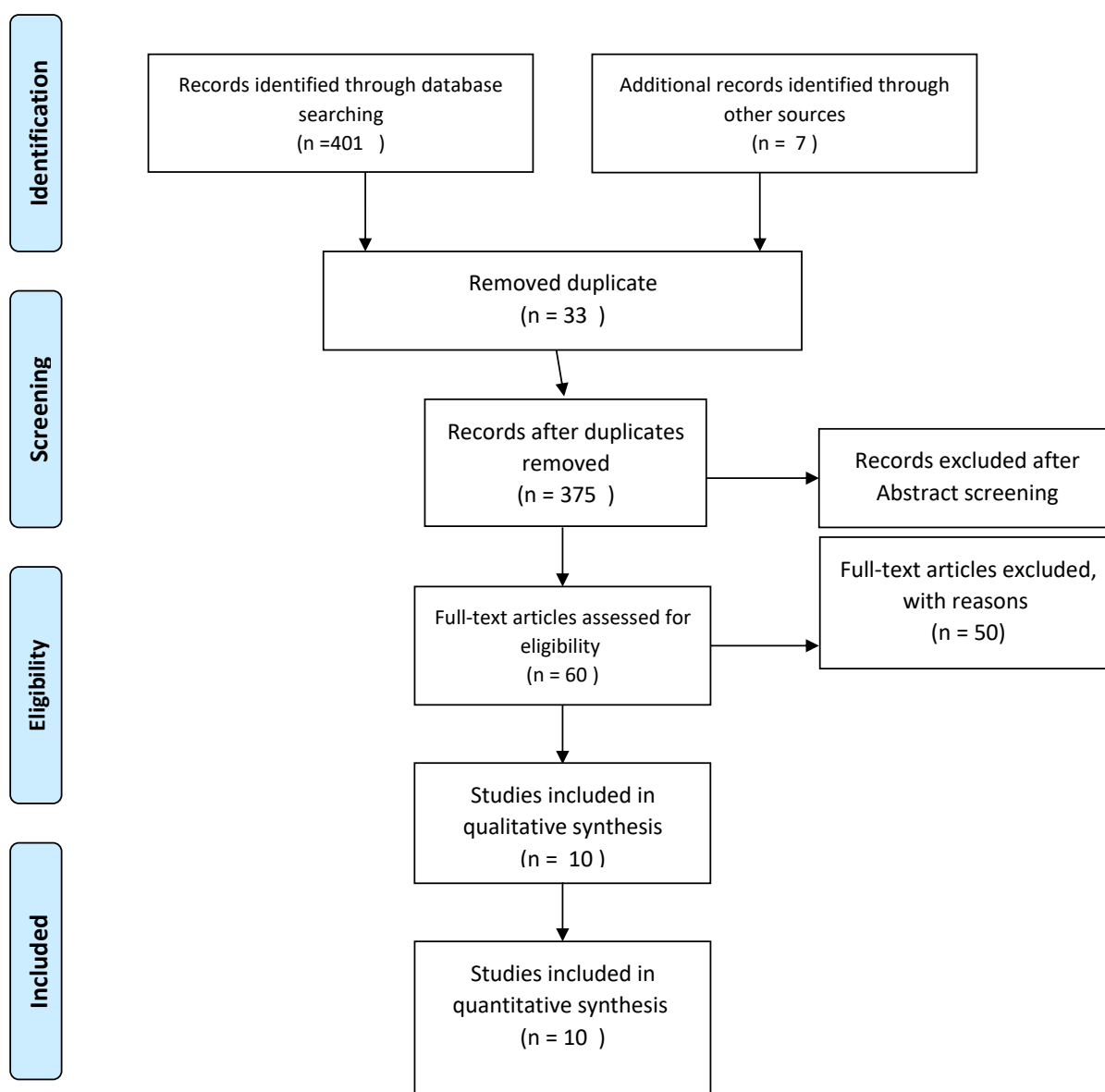


Figure 1. The process of retrieving included studies

Providing educational and consulting services

Most women generally lack essential knowledge and information regarding reproductive healthcare during crises and unpredictable events. As a result, one of the important roles of healthcare workers and healthcare service providers is to educate women in this field.

Such training should be given to women by healthcare workers and healthcare service providers before accidents and disasters occur. Also, after accidents and disasters occur, it is possible to help such people by holding regular meetings and applying counseling principles in the affected areas.

Planning and providing reproductive healthcare services

Planning is key to providing due services when exposed to critical situations. Healthcare workers and providers must have the necessary planning capability to provide reproductive healthcare services. For this purpose, healthcare workers and providers must first collect basic information, determine the appropriate areas to prepare healthcare services, and coordinate and order the equipment and medicines needed for reproductive healthcare issues.

Table 1. The characteristics of the included studies

Row	Author(s), Year, Country	Title	Study Type/ Sample Size	Variables	Results
1	Taghizadeh et al. 2011, Iran [14]	Self-efficacy of midwives to provide reproductive healthcare services in disasters.	Cross-sectional/361 midwives	Self-efficacy	The mean midwives' self-efficacy score was 8.00 ± 3.38 , and only 19% had appropriate self-efficacy.
2	Taghizadeh et al. 2018, Iran [15]	Midwives' professional competencies for preventing maternal mortality in disasters	Cross-sectional /361 midwives	Midwives' professional competence in the prevention of sexual violence	The midwives' mean professional competency score was 177.74 ± 31 , which was an average level of professional competency.
3	Beek, 2019, The UK, [16]	The role and scope of the practice of midwives in humanitarian settings: A systematic review and content analysis	Review/ 14 studies	The role of midwives in disasters	Midwives play an important role in preparing and providing reproductive and sexual healthcare services before, during, and after a crisis. Before the crisis, they are responsible for training and preparation. During the crisis, they are also responsible for implementing the reproductive healthcare service packages, preventing sexual violence and helping survivors, preventing maternal and newborn deaths; and after the crisis, they are also responsible for recovery and long-term planning.
4	Singh, 2018, The UK [17]	A long way to go ahead: A systematic review to assess the utilization of sexual and reproductive healthcare services during humanitarian crises	A systematic review/ 23 studies	Benefitting from the reproductive and sexual healthcare services	Providing services in a crisis is essential. Under such circumstances, group training by the healthcare workers assisted by the mass media is required.
5	Warren, 2015, The UK [18]	Systematic review of the evidence on the effectiveness of sexual and reproductive healthcare interventions in humanitarian crises	A systematic review/ 15 studies	Effective interventions in the field of reproductive healthcare in crisis	Interventions carried out in humanitarian crises, people, especially women, need important and sustainable interventions in sexual and reproductive healthcare. The needs of women in such areas show that the interventions are necessary to improve reproductive healthcare (family planning, pregnancy, maternal and newborn healthcare, HIV and STDs, and sexual violence) and sexual healthcare.
6.	Purno, 2023 Bangladesh [19]	Responding to humanitarian crises: Midwifery care in Bangladesh	Innovations from the Field		Community engagement through volunteers led to building rapport with residents and allowed patients to navigate healthcare services. Midwives, as a response to climate-induced natural disasters, successfully designed the quality of sexual and reproductive health and rights (SRHR) services.
7	Homer, Australia 2022 [20]	Enhancing quality midwifery care in humanitarian and fragile settings: A systematic review of interventions, support systems and enabling environments			The facilitators were the community involvement and engagement and an adequate income or benefits. Barriers to security and safety concerns, culture and gender norms, and a lack of infrastructure and supplies. Support systems included education, professional development, supportive supervision, and workforce planning.
8.	Dey et al. 2024, Switzerland [21]	Reproductive, maternal, newborn, child and adolescent healthcare services in humanitarian and fragile settings: A mixed methods study of midwives' and women's experiences	Mixed methods study		Suboptimal working conditions through rising workloads and insufficient and inconsistent resources were reported to impede the midwives from providing care in humanitarian and fragile settings. Uniquely for humanitarian and fragile settings, threats to the safety and security of midwives to conduct their work were widely reported.

Row	Author(s), Year, Country	Title	Study Type/ Sample Size	Variables	Results
9.	Mirmohammad Ali le et al. 2021, Iran [22]	Essential professional competencies for basic midwifery practice in disasters: A qualitative study	Qualitative study		Important and necessary skills of midwives to provide reproductive healthcare in natural disasters, including prevention of sexually transmitted infections (STDs) and sexual violence, pregnancy, reproductive healthcare and newborns, and safe delivery.
10.	Taghizadeh et al. 2013, Iran [23]	Midwives professional competence in the prevention of sexual violence and the spread of HIV during disasters	Cross-sectional study,	Assessing the professional competence of midwives to prevent sexual violence and prevent the spread of HIV and other STDs in disasters	The mean score of midwives' professional competence in the areas of sexual violence prevention was 57.7 ± 0.74 and HIV and other STD prevention was 47.7 ± 0.52 , both of which were in the moderate range. According to the findings, 31.9% of midwives stated that they had previously received training on disasters, and 74.6% stated that their university education did not prepare them for proper performance in disasters. The midwives' professional competence scores were only significantly related to their age and level of education ($P=0.05$).

Healthcare workers and healthcare service providers are important in providing family planning and contraception services. If these services are properly provided during this period, the prevalence of events such as unwanted pregnancies and STDs will be significantly decreased.

Providing emergency services in the fields of gynecology, obstetrics, and newborn care

The services related to gynecology and childbirth are among the ones that cannot be postponed due to the critical conditions. Under such conditions, the healthcare system must provide all the necessary facilities to save the lives of the mother and the baby. There should be a standard referral system from the disaster scene to the healthcare and treatment centers and from the service centers to the reference hospitals.

Midwives and healthcare workers must know the necessary skills to perform natural births, control birth complications and birth problems, and be ready to deal with pregnancy and newborn emergencies. Midwives should have the necessary training to use clean kits to give birth at home under the circumstances when access to healthcare centers and hospitals is not possible.

Midwives and healthcare workers, as the companions of women, play a significant role in crisis conditions, which can reduce the potential physical injuries and mental traumas.

Preventing and managing the consequences of sexual violence

Violence is one of the typical events during a crisis. Usually, the prevalence of sexual violence is higher than other types of violence. One of the key roles of healthcare workers and healthcare service providers is to prevent and manage the consequences of sexual violence. Healthcare workers and healthcare service providers should consider critical solutions for protecting and supporting the victims of unforeseen events, especially women and girls, against sexual violence. Also, they should offer appropriate treatment and support services to the victims of sexual violence.

Discussion

This study aimed to investigate the role of healthcare workers in providing reproductive and sexual healthcare services in disasters. The results of this study were presented in four main categories. The first category is providing educational and counseling services by healthcare providers during the crisis. Designing interventions in a crisis is very difficult but necessary to minimize the effects of the crisis. Healthcare workers and midwives play a critical role in preparing and providing reproductive and sexual healthcare before, during, and after disasters.

According to the results of the studies, one of the important roles of the healthcare workers is to provide educational and counseling services to the injured women. Thus, healthcare workers need knowledge and information to play such a role. Midwives play a key role in providing counseling services to women. The contin-

uous communication of midwives with injured women during clinical care is considered a key opportunity in providing counseling services to women. Empathy and companionship of midwives increase the quality of women's clinical care [24].

In this regard, WHO has greatly emphasized holding training courses. To prepare the midwives to provide such services during disasters, adding educational material according to the university courses has been recommended [18].

Recognizing emergency cases and timely referral of the women reduces many maternal and newborn consequences. In the study of systematic review, timely referral in a crisis is considered an essential skill for midwives [18].

The second category in this study is planning and providing reproductive healthcare services. Because at the time of disasters, the physical and mental needs of the people are prioritized and the resources are limited, the basic needs of vulnerable populations such as mothers and babies are usually overlooked. The medical staff are required to have the necessary skills to manage fertility services [25, 26].

The third category in this study is providing emergency services in gynecology, obstetrics, and newborn care. Another important role of healthcare workers is providing emergency services in obstetrics, gynecology, and newborn care. In this regard, the medical staff must be able to deal with emergency cases. The results of the research showed that disasters and unexpected events lead to increased obstetric problems such as diabetes, chronic pregnancy hypertension, childbirth-related events, pyelonephritis, and other chronic diseases. Healthcare providers must have sufficient knowledge and skills in this field to make the best decisions in service provision and punctual referral when facing such disasters [16]. The results were in line with those of the study done by Baker et al. [17, 18]. The study's results by Mirmohammad Ali le et al. (2021) showed that the ability to deliver safely in emergencies during natural disasters is vital. Healthcare system employees, especially midwives, should have sufficient training for safe childbirth [22]. The results of a review study by Purbarar et al. (2021) showed that healthcare workers play an important role in continuing breastfeeding and baby care during disasters and accidents [27].

Clinical decision-making by midwives in women's emergencies after natural disasters such as earthquakes

plays a key role in reducing the consequences of maternal and newborn mortality. There is a need for the politicians of the healthcare system to have a unique look at midwives [28].

According to the study results, the fourth category is preventing and managing the consequences of sexual violence. Healthcare workers and healthcare service providers play a significant role in preventing and managing the consequences of sexual violence [25]. As the results of the research indicate, midwives need special training in preventing sexual violence and STDs and providing care for women and midwives during a crisis. In the study of Taghizadeh et al., the mean professional competence score of the midwives on the prevention of sexual violence and the spread of HIV and other STDs was average, which signifies holding training courses and workshops in this field [23].

The breakdown of social relations that follows the displacement and transfer of the homeless population to camps is synonymous with the loss of women's security. Also, following the occurrence of natural disasters, the level of social security decreases. Therefore, the amount of sexual violence in society increases. There is a strong need to increase disaster risk reduction policies with gender sensitivity and women's participation in disaster management [30]. The need for higher quality research in wider geographical areas is necessary to increase specialized knowledge in the field of prevention of sexual violence against women in natural disasters.

Conclusion

Considering that there are limited studies, especially in the Persian language, the current research can be used in further research cases to examine the role of healthcare workers in providing reproductive and sexual healthcare services when struggling with disasters. Regarding the many obstacles in providing reproductive healthcare services, this study can be employed to plan, design, and implement some effective interventions to provide the due services. Healthcare service providers can benefit from this review by familiarizing themselves with their role during disasters. Hopefully, the present study-extracted results can effectively depict the healthcare workers' role in reproductive healthcare in disasters.

Study Limitations

The limited access to some of the databases led to the authors searching only in mentioned databases.

Ethical Considerations

Compliance with ethical guidelines

This article is a meta-analysis with no human or animal samples.

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Authors contributions

Conceptualization, methodology, investigation, and writing: All authors; Data collection: Tahereh Yaghoubi; Data analysis, funding acquisition, and resources: Fari-deh RezaeiAbhari and Tahereh Yaghoubi.

Conflict of interest

The authors declared no conflict of interest.

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