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Barriers of Implementing Evidence-based Practice Perceived by Iranian Speech and Language Pathologists: A Qualitative Study

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Abstract

Background: Identifying and removing the barriers faced by speech and language pathologists (SLPs) for implementing evidence-based practice (EBP) can facilitate its administration among Iranian SLPs.
Objectives: The present study was conducted to explore the barriers to implementing EBP among Iranian SLPs.
Methods: A total of 14 SLPs were recruited using a purposive sampling technique. Semi-structured interviews were conducted for data collection. The interviews continued until data saturation was reached. Data were recorded and transcribed verbatim, and qualitative content analysis was used for data analysis.
Results: Data analysis yielded three themes, including individual factors, organizational (workplace) factors, and extra organizational factors, and 13 subthemes.
Conclusions: This study demonstrated that Iranian SLPs are faced with several barriers to using EBP in clinical practice, which may be related to both the SLPs themselves and their surroundings. These barriers should be considered by policymakers, administrators, teachers, and rehabilitation team members to facilitate the implementation of EBP by SLPs.

Keywords: Evidence-based Practice, Speech and Language Pathology, Barriers, Qualitative Research

1. Background

Evidence-based practice (EBP) is defined as "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients … [and] means integrating individual clinical expertise with the best available external clinical evidence from systematic research" (p. 71) (1). In recent years the EBP has become a key component of many healthcare professions (2), which can be attributed to its benefits (2). The advantages of applying EBP in healthcare settings include improving the quality of clinical services, establishing an appropriate connection between theory and practice, decreasing the differences in service provision, and bolstering the accountability of clinicians to the patients and their families (3). The overall goal of the EBP is to improve patient care (2).

Since the advent and expansion of the EBP, Speech and Language Pathologists (SLPs), as well as other clinicians, have been encouraged to apply EBP in their daily clinical practice (4-9). Several measures have been developed and adopted by professionals, administrators, educators, researchers, and well-known associations in the field of speech and language pathology to advocate the adoption of EBP (4, 7, 10-12). For example, the American Speech-Language-Hearing Association (ASHA) provides some resources to facilitate the use of EBP among SLPs (4). At the moment, using EBP is one of the basic tenets of speech and language pathology (13). ASHA puts a strong emphasis on EBP. The SLPs do have the responsibility to use EBP, and they must have demonstrated basic knowledge of integrating research principles into evidence-based clinical practice to receive a certificate of clinical competence (11, 14, 15). In addition, research on EBP is one of the ASHA's priorities (11, 16). Other speech-language pathology professional entities have also focused on EBP. For example, the expansion and dissemination of information about EBP are also

at the forefront of the Academy of Neurologic Communication Disorders and Sciences (ANCDS), and many EBP guidelines are developed and released by this academy (11, 17). Similar to other international associations related to the field of speech and language pathology, The Royal College of Speech and Language Therapists (RCSLT) focuses on EBP use and developing clinicians' ability to employ EBP. RCSLT has included EBP in its professional standards and guidelines, that it is essential for clinicians to: "establish an evidence-based resource as the basis for the provision of clinical care, organization of services and service development" (RCSLT) (18). Despite these measures and the emphasis on the importance of EBP, there are some barriers that prevent successful implementation of the EBP (19), which their identification would be useful to further expand the use of EBP among SLPs (20).

To date, some studies have been conducted to identify barriers faced by SLPs when attempting to use EBP, and some of the reported barriers are insufficient knowledge about EBP and improper skills for its implementation (locating, appraising the quality, synthesizing, and using findings from evidence), insufficient time to apply EBP, lack of evidence related to the client population in speech and language pathology, difficulties in accessing the research evidence, willingness to use traditional approaches, lack of due credit given to EBP by leadership, high workload, lack of education about EBP, lack of information resources, lack of research skills, uniqueness of individual patients, negative perceptions toward research, and organizational culture and climate barriers that do not support the implementation of the EBP (2, 4, 21-25).

All of these studies have been conducted using a quantitative method and a questionnaire. However, it seems that following a qualitative study can provide more accurate evidence regarding such barriers. Moreover, most of these studies have been conducted in western countries; because speech and language pathology is a profession that, depending on the language and culture, differs from one country to another, and clinical population and service provision settings may also vary (10). Thus, Iranian SLPs may face different and unique barriers in implementing EBP.

2. Objectives

The aim of the present study was to explore the barriers to implementing EBP among Iranian SLPs using a qualitative approach.

3. Methods

3.1. Study Design

A qualitative approach with content analysis technique was used in the current study to explore the barriers to implementing EBP among Iranian SLPs. In the qualitative content analysis, the main themes for studies were determined by summarizing, describing, and interpreting the data. Content analysis is developed to examine participants' perceptions and experiences about a specific topic (26, 27).

3.2. Sampling and Setting

The application of purposive sampling entails categorizing subjects in accordance with ex-ante identified criteria based on the research issue. Table 1 presents each participant's characteristics. A total of 14 interviews were conducted between July 2016 to April 2017, with SLPs coming from three cities (i.e., Tehran, Isfahan, and Karaj) in Iran. Participants were members of the Iranian Scientific Speech Therapy Association with at least two years of clinical experience.

3.3. Data collection

Face-to-face semi-structured interviews were used to identify Iranian SLPs' perceptions of barriers that prevent the successful implementation of EBP in clinical practice. Semi-structured interviews were performed in accordance with the interview guide developed by the research team after a comprehensive literature review (see Appendix 1 in Supplementary File for further details on interview guide questions). The first author performed all the interviews, and all authors participated in the data analysis process. The interviewer was a 30-years old male SLP with a postgraduate degree and proper experience in the field of EBP and qualitative research. To collect interviews, firstly, an invitation letter containing a brief explanation of the study objectives was sent via e-mail to 30 eligible SLPs. Afterward, we referred to the workplace (i.e., clinic, unit, or department) of the SLPs who responded positively to our request. Only the interviewer and the interviewee were presented at the study site during interviews. The interviews lasted from 30 to 70 minutes (mean = 45 min) and were recorded digitally.

3.4. Data Analysis

Following a deductive approach, qualitative content analysis was used to analyze the data in five steps, as described by Graneheim and Lundman (28): (1) transcribing; (2) determining meaning units; (3) abstracting the meaning units and primary codes; (4) sorting codes: combining and categorizing codes based on their similarities and differences; and (5) formulating themes (28). In the present study, all interviews were transcribed and double-checked by experts in the field of speech-language pathology. Afterward, the meaning units and primary codes were extracted, followed by categorization of the extracted codes. After the addition of new interviews, this procedure was repeated, and we modified the codes and then the categories

Table 1. Demographic Characteristics of the Participants

Participant	Gender	Age in Year	Educational Degree	Experience in Year	Clinical Field	Age of Clients	Practice Setting	Academic Position
P-01	Male	24	BSc	2	Dyslexia	Children and Adults	G and P	No
P-02	Male	28	MSc	5	Language disorder	Children	G and P	No
P-03	Male	38	PhD	15	Fluency disorder	Children and Adults	G and A	Yes
P-04	Female	29	MSc	5	Language disorder	Children	G and P	No
P-05	Female	38	MSc	16	Fluency disorder	Children and Adults	G and P	No
P-06	Male	32	MSc	10	Fluency disorder	Children and Adults	P	No
P-07	Female	31	MSc	8	Voice disorder	Adults	G and P	No
P-08	Female	32	PhD	12	Fluency disorder	Children and Adults	G, A, and P	Yes
P-09	Female	43	PhD	18	Acquired language disorder	Adults	G and A	Yes
P-10	Female	37	PhD	15	Dysphagia and voice disorder	Adults	G and A	Yes
P-11	Male	28	BSc	5	Dysphagia	Adults	P	No
P-12	Female	31	BSc	9	Articulation and phonological disorder	Children	G and P	No
P-13	Female	35	PhD	13	Language disorder	Children	G and A	Yes
P-14	Male	28	BSc	5	Language disorder	Children and Adults	P	No

Abbreviations: P, participant; BSc, bachelor of science; MSc, master of science; G, governmental; P, private; A, academic.

based on the new data. This procedure was repeated until data saturation was reached, and finally, the extracted codes and categories were sorted, and themes were formulated. It should be noted that data saturation was reached when interviews and data analysis could not lead to new information, codes, and themes.

All research team members reviewed the transcribed interviews several times and were involved in the interpretation of the coding. The first and second authors performed the categorization process. Nevertheless, all the authors revised and approved stages of the analysis.

3.5. Rigor

To evaluate the trustworthiness of the data, we used the criteria suggested by Guba and Lincoln (27). The overall objective of trustworthiness in qualitative studies is equivalent to quantitative criteria of internal validity, external validity, reliability, and objectivity (29). We used prolonged engagement, development of a coding system, member checking, external audits (external observer), triangulation, and transferability to establish rigor (trustworthiness) in our study. Prolonged engagement involves spending time with the topic of the study. To achieve prolonged engagement, the first author was involved in the process of interviews and data analysis for a year, because he conducted an interview and then analyzed its data, then the second interview was conducted, and its data analysis followed, and next came the third interview and its data analysis, and so on. This procedure helped the first author to gain the SLPs' trust and provided a better understanding of EBP. In the semi-structured interviews, we used questions that were developed in advance (see Appendix 1 in Supplementary File for further details on the interview guide). These pre-selected questions were asked in the same order. The SLPs were free to answer or dismiss any of the questions as they wished, but answers had to be restricted to the pre-selected questions, or to new questions which were developed instantly by the interviewer during the interviews (depending on the discussions between the interviewer and the interviewee); however, the interviewer could use probe questions (such as explain further and give an example) to obtain additional information from participants. This method of interview and using these questions paved the way to develop an appropriate coding system for qual-

itative analysis. In member check, the transcribed interviews were sent to the participants to ascertain and correct the data and add possible additional information, as we did in our study (29). An external observer was consulted to ensure the dependability of data analysis. As a result, some sections of the transcribed interviews and analyzed data were sent to a professor qualified in the field of qualitative studies and EBP to approve and/or correct the analyses. To provide reliable findings, triangulation was performed using splitting the data into two sets and asking two coauthors to analyze each set independently. To provide transferability, a thick description of all stages of the study, especially methods of the study, was mentioned (29).

3.6. Ethical Consideration

The study was approved by the Ethics Committee of the Iran University of Medical Sciences (IR.IUMS.RE1395.9221363202).

4. Results

A total of 14 SLPs with a mean age of 32.4 years and 9.85 years of work experience participated in the study, while 57.1% of the participants were women and 71.4% were postgraduates. Table 1 presents more details about participants' demographics.

Data analysis yielded three themes stated by the SLPs in relation to the issues that have prevented using EBP in their clinical practice. The emerged themes included individual factors, organizational (workplace) factors, and extra organizational factors. These three themes comprised 13 subthemes (Table 2).

4.1. Individual Factors

The SLPs believed that some barriers are related to the SLPs themselves, including knowledge and skills related to EBP, personal negative attitudes, and personal problems. However, they stated that these barriers are not similar for all colleagues.

4.1.1. Knowledge and Skills Related to EBP

The SLPs emphasized the importance of having appropriate knowledge and skills for EBP implementation while noting the lack of enough knowledge and skills in this regard. Lack of proficiency in the English language, which is the main language of the texts and evidence in speech and language pathology, was one of the barriers related to knowledge and skills as stated by one SLP:

"Lack of skills in the English language is the greatest obstacle for me to use EBP. It is very difficult for those like me who are incompetent in English. I should always ask colleagues to help me and translate a book or article for me or that I should resort to Google translate to understand the meanings of the English texts." (P-14)

Some participants believed that they were having difficulty with the understanding of statistical concepts, and this is another barrier to their use of EBP:

"The inability to understand statistical concepts is also important. For example, a while ago, I read an article that was about using regression to predict the chronicity of stuttering. Once I read the article, I did not understand what the regression was? If I had good knowledge and information about statistics, I could better understand the regression." (P-6)

Insufficient skills to do research and find evidence were other barriers related to the participant's knowledge and skills. One of the SLPs said:

"Another thing that comes to my mind is the inability to do research. This can be very disadvantageous for a clinician who has difficulty in this regard. For example, a clinician with a rare client may not get proper information due to inappropriate skill to find related evidence." (P-11)

4.1.2. Personal Negative Attitudes

The SLPs believed that they had some attitudes toward clinical practice and their abilities that could prevent them from using EBP in clinical practice. These negative attitudes included feeling scientifically competent, excessive pride, and oversimplification.

Feeling adequate about theoretical knowledge and clinical abilities was another barrier associated with the personal negative attitudes of SLPs.

"Unfortunately, when I graduated from university, I felt that my knowledge in speech-language pathology was complete and I did not need to update it" (P-1)

Excessive pride was also an important barrier for moving toward EBP:

"In my opinion, excessive pride is another issue that exists. This means that when we get positive outcomes from treating some of our clients, we are prone to excessive pride that these techniques and methods are sufficient and there is no need to learn new ones." (P-11)

Several SLPs stated that some areas of speech and language pathology are considered too simple by them and their colleagues. One of the participants said:

"Unfortunately, we think that evaluating and treating some areas of our discipline is simple and common. For example, the area of the speech sound disorder (SSD), which is considered to be very simple by SLPs, because most of our colleagues believe that the SSD is a very simple area and everyone can do with limited knowledge." (P-12)

4.1.3. Personal Problems

According to participants, the problems of clinicians of any kind can influence the use of EBP. These problems may include lack of time, financial problems, and other problems of the clinicians in their life personal lives.

Concerning the lack of time, a participant argued that: "one of my problems to use EBP is insufficiency of time.

Table 2. The Themes and Subthemes

Themes	Subthemes
Individual factors	Lack of knowledge and skills related to EBP; Personal negative attitudes; Personal problems
Organization (workplace) factors	Lack of academic education about EBP; Lack of facilities; Lack of proper supervision; High workload; Financial issues
Extra organization factors	Lack of evidence in SLP area (lack of native evidence, guidelines, and norms); Lack of insurance support; Lack of public awareness and knowledge about EBP; Society culture; Financial problems

Of course, many of my colleagues are facing this problem, too." (P-14)

One of the SLPs with high clinical experience talked about the financial problems of clinicians:

"I think the financial situation of a clinician is very important because when you want to work based on EBP, you must evaluate the clients, you have to spend time for searching, and so on. For example, I spent about three hours for reviewing the ratings of my clients in the morning. It took a lot of o compare these ratings. These are time-consuming. A therapist who has financial problems and whose income depends on speech therapy can not spend much time on these tasks. I think because implementing EBP is time-consuming, you must have enough income to spend more time for clients." (P-5)

4.2. Organizational (Workplace) Factors

This theme refers to barriers related to organizational factors (the clinicians' workplace) and comprises five subthemes of lack of academic education about EBP, lack of facilities, lack of proper supervision, high workload, and financial issues.

4.2.1. Lack of Academic Education About EBP

Several participants emphasized that they did not receive proper education regarding EBP, including during their academic education.

"We did not receive any education about EBP, or this issue is not included in our curriculum. For example, we did not have any training on how to search articles, and we should attend some classes outside of the university to learn about searching and finding articles." (P-14)

Another point reported by some SLPs was related to teachers. One of the participants stated that "I must have a teacher to explain the EBP to me, move me toward EBP. Do teachers train us about how to read an article?" (P-6)

4.2.2. Lack of Facilities

Lack of facilities, such as inappropriate clinic space, was another barrier for SLPs in using EBP. A participant who was working in a private clinic said:

"The other problem is that we do not have proper clinical spaces; there are only a few clinicians whose general clinical spaces are appropriate to meet clients' needs. For example, if I want to work with a child with hearing loss based on the EBP, the space of my clinic should be in line with the conditions stated in the evidence. When I want to work with a child with autism, my room should be adapted to the conditions of children with autism." (P-4)

4.2.3. Lack of Proper Supervision

Participants mentioned poor monitoring of clinicians' performance and the lack of pressure to use EBP by regulatory systems as a probable barrier to using EBP. One of the participants who was a faculty member added:

"Well, supervisory systems are weak in Iran. For instance, the Department of Treatment Affairs of the Ministry of Health and Medical Education, or the medical system, let's say, those who should have the main supervisions, are very weak. Currently, if a clinician does not follow EBP, there is no appropriate supervisory authority to stop him/her. You know what I'm saying. There are times when I'm not working on the basics of EBP, but there are your institutions in the community that force me to follow the EBP principles. But the fact is that there is no strong supervision on clinicians' performance in Iran." (P-3)

4.2.4. High Workload

High work pressure was also mentioned as another important barrier to the use of EBP, which often results in the lack of enough time for the clinician: "Time constraint is also a problem, because of high work pressure. When I was working in a hospital, I was so busy that I often forgot that I had to study for treating my patients." (P-7)

Participant 4 said: "The workload at the universities is high for faculty members. When a faculty member is completely booked with direct training of students, research, and executive responsibilities, there would be no time left to implement EBP." (P-9)

4.2.5. Financial Issues

Excessive attention to financial issues, such as the amount of income in private clinics, was another major barrier posed to SLPs. For example, some clinics force clinicians to prescribe more therapeutic sessions that are against the needs of clients, with the aim of increasing the clinic revenue. One of the participants said:

"Unfortunately, in some clinics, clinicians are forced to violate principles of EBP. For example, I work in a private clinic. While a child needs a single therapeutic session, the clinician prescribes two treatment sessions." (P-6)

4.3. Extra Organizational Factors

The participants reported some factors beyond the organizational level that prevent them from the proper use of EBP. This theme comprises five subthemes of lack of evidence in speech and language pathology area, lack of insurance support, lack of public awareness and knowledge about EBP, society culture, and financial problems.

4.3.1. Lack of Evidence in Speech and Language Area (Lack of Native Evidence, Guidelines, and Norms)

Participants believed that speech and language pathology is a new discipline and evidence are not sufficient, which may result in problems for more use of EBP by SLPs. One of the SLPs said:

"In some areas of speech and language pathology evidence are not sufficient and limited evidence - or evidence that is not of high quality - in the area of language disorders has become a challenge for clinicians" (P-4)

Insufficiency of local evidence, norms, and instruments tailored to Iran context was another barrier related to the lack of evidence, too:

"Another problem is the lack of standard instruments for the Persian language. Even when we have the standard instruments, we do not have the standard norms or their thresholds." (P-2)

4.3.2. Lack of Insurance Support

The lack of insurance support for the speech and language pathology services in Iran was also suggested by SLPs as an important barrier to implementing EBP.

"Because of the barriers that exist, EBP is really difficult to use. For example, consider health insurance coverage. In some countries, speech and language pathology services are covered by health insurance funds. This insurance support prevents families from abandoning appropriate treatment options due to financial constraints. Unfortunately, in Iran, because of the lack of insurance coverage, many families do not choose the best treatment options when their children need more intensive services." (P-2)

4.3.3. Lack of Public Awareness and Knowledge About EBP

Participants referred to the lack of public awareness and knowledge about EBP in society. They believed that, according to their experience, families who are not aware of EBP create problems for the use of EBP by clinicians. One of our participants said,

"Unfortunately, our clients' families do not have proper knowledge about EBP. Often, they do not participate in decision-making. They resist the implementation of new treatments and so on. This lack of awareness prevents us from working on EBP." (P-3)

4.3.4. Society's Culture

According to the participants, some cultural characteristics of our society are against EBP and a hallmark of EBP use. They believed that some of these characteristics are related to the clinicians and some to families. For instance, one of these cultural points was the 'culture of comfort' in the society or unwillingness to try hard, a general comfort-seeking attitude that avoids hardship, effort, and labor. One of the participants said:

"I send an English book or article to my colleagues to study, but they do not accept this issue at all, and their desire is to learn only through lectures or workshops and do not attempt to learn in other ways. Unfortunately, there is no need to try to learn new things in our culture." (P-13)

Vesting the clinical decision making to the clinicians, due to the physician-centered culture among the people, i.e., the concept that patients and families rely too much on the physician's decisions and avoid playing an active role in deciding on the treatment procedures, was another barrier stated by SLPs:

"One of the principles of EBP is that if you have several options for treatment, you should involve the family in clinical decision making. According to my experience, it is impossible to suggest options to the family and engage them. Everyone answers that you know better, whatever you choose." (P-6)

4.3.5. Financial Problems

The participants believed that the financial problems of some of the clients and their families can affect the clinician's use of the EBP. The following statement describes the financial problems of a clients' family as a barrier to implementing EBP by SLPs:

"Sometimes I want to use a treatment plan for an autistic child based on the evidence, which requires frequent and intensive sessions within a week. But the family's financial problems do not allow them to afford the cost of the child's treatment." (P-2)

5. Discussion

The present study aimed to identify the barriers that Iranian SLPs are faced to implement EBP. The results showed that SLPs had experienced a wide variety of barriers to using EBP in clinical practice, which were categorized into three themes: individual factors, organizational (workplace) factors, and extra organizational factors. These barriers are discussed below.

Comparison of the results of the present study with those of the previous ones shows a comprehensive collection of barriers reported by various healthcare professionals (19). However, the qualitative approach used in the present study allowed deeper and more precise identification of the barriers perceived by SLPs. That is, some of

the barriers stated by the SLPs were not mentioned in previous studies (23, 25, 30). These barriers included lack of insurance support, lack of public awareness and knowledge about EBP, supervision weakness, and society's culture. These barriers may be more closely related to Iranian SLPs. Yet, we also identified other barriers related to individual factors, including lack of knowledge about EBP (lack of research skills, lack of understanding of statistical analyses, and poor ability to critically evaluate), negative attitudes, and lack of time, have abundantly been reported in the previous studies (19, 23, 25, 30-32). Lack of time is one of the most important barriers to EBP use that has been reported in many studies by SLPs (25, 30, 32), nurses, physiotherapists (31), occupational therapists (33), dentists, and other health care professions (2, 19, 31). Time management training for health care professionals can be an important step to resolve this issue (19).

Concerning the organizational barriers, our participants argued that the lack of academic education about EPB created a significant barrier to their ability to implement EBP, which indicates the need to revise the curriculum of academic education of speech and language pathology. Also, SLPs should participate in workshops and in-service training programs related to the EBP to update their knowledge. Lack of facilities, weak monitoring systems, and financial issues are barriers that may be common in both low and middle-income countries (34). Another organizational barrier reported by SLPs was high workload, which can be addressed by hiring more employees (19).

Lack of evidence in the speech and language area, lack of insurance support, lack of public awareness and knowledge about EBP, society's culture, and financial problems are other organizational barriers reported by SLPs. Lack of evidence regarding the speech and language area was another important barrier reported by SLPs; which is a major barrier mentioned by SLPs as well as other healthcare professions (19, 30). Speech and language pathology is among the new and highly broad disciplines, and, therefore, limited evidence is reported in this discipline. It should be noted that evidence are growing in this discipline. The SLPs mentioned lack of insurance support as one of the important barriers to implementing EBP. To address the issue of evidence insufficiency, there seems to be a need to change governmental and insurance laws regarding rehabilitations services in Iran. Lack of public awareness and knowledge about EBP as well as the culture of the society are two public barriers that should be addressed by general education about EBP in Iranian society.

5.1. Conclusion

Overall, this study demonstrated that perceived barriers of Iranian SLPs have prevented them from the successful implementation of evidence-based practice. Some of the identified barriers are consistent with those reported in other countries, and some are special to the present study. The barriers mentioned in our study can help SLPs, administrators, speech, and language pathology educators, and researchers to identify those barriers that caused problems for the effective administration of the EBP and to develop an action plan. The results of the present study indicated that Iranian SLPs are faced with several barriers to using EBP in their clinical practice. Barriers can be related to both SLPs themselves and their surroundings. These barriers should be considered by policy-makers, administrators, teachers, and rehabilitation team members to facilitate the implementation of EBP by SLPs.

5.2. Limitations

The present study suffers from some limitations. For instance, all interviews were performed with SLPs working in three cities of Tehran, Isfahan, and Karaj, mainly due to difficulties of expanding our research sample to other cities. Since no previous qualitative study was found in this regard, the results of the present study were compared with studies that followed a quantitative design. Despite these limitations, detecting the barriers as perceived by SLPs may facilitate better use of EBP and finally deliver higher quality care to patients.

Further qualitative research is needed to investigate whether our results apply to SLPs living in other parts of Iran, as well as for other health-related clinicians. Also, to assess the generalizability and validity of our results, more studies with quantitative methods are warranted. Developing a questionnaire to identify barriers to using EBP and evaluation of its psychometric properties is also suggested.

Supplementary Material

Supplementary material(s) is available here [To read supplementary materials, please refer to the journal website and open PDF/HTML].

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Footnotes

Authors' Contribution: Study concept and design, SA. T., L. Gh., M. K., N. Sh., Y. A., and A. E.; Analysis and interpretation of data, SA. T., B. M., H. A., N. Sh., and M. K.; Drafting of the manuscript, SA. T., L. Gh., M. K., N. Sh., Y. A., and A. E.; Critical revision of the manuscript for important intellectual content, H. A., B. M., and S. B.; Statistical analysis, A. E., and SA. T.

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