

## Assessing the quality of referral letters written by general practitioners: a cross-sectional study in rural Iran

Avaliação da qualidade de cartas de encaminhamento escritas por clínicos gerais: um estudo transversal numa área rural do Irã

Evaluación de la calidad de cartas de derivación escritas por médicos generales: un estudio transversal en un área rural de Irán

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### Abstract

*Establishing effective communication between general practitioners (GPs) and medical specialists is a key component of the referral system. Written communication between GPs and medical specialists is the most common communication tool. This study was conducted to evaluate quality (information content) of the referral letters written by GPs and addressed to gynecologists and cardiologists. We evaluated quality of the referral letters through a cross-sectional study in the villages of Sarab city, located in East Azerbaijan Province, Northwest Iran. The study was conducted during August and September 2015 in which a total of 400 referral letters were evaluated according to specific quality criteria. Cluster sampling was implemented and data were collected using an instrument designed by the Department of Family Medicine at the University of Manitoba, Canada. A specifically designed referral form was used to refer pregnant women to gynecologists. Referrals addressed to gynecologists showed better quality in comparison to cases referred to cardiologists. Legibility of referral letters was 73%. It is recommended that agreed-upon referral letters be designed cooperatively for different groups of diseases. Furthermore, primary health care providers should be trained to write proper referral letters.*

*Referral and Consultation; General Practitioners; Primary Health Care*

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## Introduction

Referral of patients to secondary care settings is an essential part of primary health care. Nowadays, modern health care is provided through close collaboration and communication between various professional institutions and organizations <sup>1</sup>. Written communication with its long history in the medical profession <sup>2</sup> is an important aspect of quality care. At present, little face-to-face communication is conducted among health service providers. Written correspondence is the most common tool for information transfer involving patient care <sup>3</sup>.

In a high-quality referral, which is an information-intensive process, important components of demographic and clinical information such as reasons for referral, provisional diagnosis, previous diseases and treatments, prescriptions, habits, and drug sensitivities coupled with clinical questions are transferred to other health care providers <sup>4</sup>.

Referrals with insufficient details can lead to discontinuity of care, delayed diagnosis, polypharmacy, weak follow-up plans, repeated and unnecessary tests, and also inability of the receiving physician to recognize the need for referral, all of which cause reductions in quality of care, medical errors, and increases in health sector expenses <sup>5</sup>.

Both general practitioners (GPs) and specialists pay more attention to information of their shared patient; however, dissatisfaction has been reported with the volume, content, and timeliness of the information <sup>6</sup>. Structured referral sheets, a strategy to improve the communication process and facilitate patient information flow between service providers, are indeed a kind of checklist that guides the referring physician to provide predetermined data in the referral process <sup>7</sup>.

Iran's three-tiered health system provides health care with the central role of generalists in the primary health care setting, and specialists and subspecialists in both the secondary and tertiary levels. According to Iran's upstream-centered laws, access to specialized services has been provided through the referral process. In Iran's health system, less notice has been given to the referral sheets, and until now no study has assessed the quality of referral letters. Therefore, this study aimed to assess quality of the referral letters in rural Iran.

## Methods

This cross-sectional descriptive study aimed to identify features and gaps of GPs' referral letter-writing skills by assessing quality of the referral sheets written by GPs working in the villages of Sarab city, located in East Azerbaijan Province, Northwest Iran. The study was approved by the Human Research Ethics Committee of Tabriz University of Medical Sciences (case review 5/95/4389, December 25, 2014). Cardiologists and gynecologists who were recipients of the referral sheets were working in Sarab hospital and other specialized centers. We conducted the sampling in two stages; in the first stage, randomized cluster sampling was used to identify five clusters (Asfestan, Kalian, Ardaha, Aghmeion, and Razlig centers) surrounding Sarab city. Each cluster was selected based on its activity as a center for affiliated villages. In the second stage, the Cochran's sample size formula for categorical data was used and 384 referral letters were calculated as appropriate sample size. For a more powerful study, 400 letters were randomly and proportionately selected from the referral registry of clusters. Letters to gynecologists were chosen due to use of specific referral form and to cardiologists because of higher referral rates when compared to other groups. Ninety percent of letters had been completed by GPs and another 10% by midwives when GPs were off duty. The reviewed referral letters were dated from January 2014 to January 2015. Table 1 shows the socio-demographic characteristics of the specialists, GPs, and midwives.

We used a checklist to assess the quality of referral letters. The assessment tool was adapted from the work of the Department of Family Medicine at the University of Manitoba, Canada. The tool was developed in Canada as an educational intervention to improve the skills of family physicians <sup>8</sup> when they experienced difficulty writing referral letters due to lack of specific training. Iran's referral system now apparently has the same problem. Figure 1 shows the criteria on the checklist for evaluating quality of referral letters.

**Table 1**

Socio-demographic characteristics of a sample of general practitioners (GPs), midwives, and specialists. Sarab, East Azerbaijan Province, Iran.

	n	Age (range)	Gender (F;M)	Workplace		
				Rural health center	General hospital	Private office
GPs	5	25-50	(2;3)	✓		
Midwives	5	30-45	(5;0)	✓		
Specialists						
Gynecologists	6	38-50	(6;0)		✓	✓
Cardiologists	4	40-55	(1;3)		✓	✓

F: female; M: male.

**Figure 1**

Checklist items for quality assessment of referral letters.

Content	1	Demographic information	Yes	No
	2	Reason for referral		
	3	Description of chief complaint		
	4	Description of associated symptoms		
	5	Description of relevant collateral history		
	6	Past medical history		
	7	Past surgical history		
	8	Relevant psychosocial history		
	9	Current medications		
	10	Allergies		
	11	Relevant clinical findings		
	12	Results of investigations to date		
	13	Outline of management to date		
	14	Provisional diagnosis or clinical impression		
	15	Statement of what is expected from the referral		
Writing style	16	Title of each paragraph		
	17	Paragraphs to 5 sentences		
	18	Sentence includes an idea		

## Results

This study indicated that generic referral forms transfer less information to the next provider and that the information items tend to be incomplete and irrelevant. Legibility of referral letters was 73%, and no writing-style items had been followed in the referral forms that were evaluated. Although different volumes and content of information were transferred to gynecologists and cardiologists, among the clusters, similar volumes and content of data were transmitted. Table 2 shows the volume of information transferred during the referral process.

**Table 2**

Number of items included by general practitioners in referral letters.

Information items	Receiving specialists	
	Gynecologist n (%)	Cardiologist n (%)
Content		
Demographic information		
Patient's name	208 (100.0)	192 (100.0)
Patient's age	93 (44.7)	57 (29.7)
National identification number	0 (0.0)	0 (0.0)
Patient's contact details	0 (0.0)	0 (0.0)
Contact telephone number of referring physician	0 (0.0)	0 (0.0)
Name of receiving specialist	0 (0.0)	0 (0.0)
Reason for referral	148 (71.1)	27 (14.0)
Description of chief complaint	192 (92.3)	35 (18.2)
Description of associated symptoms	180 (86.5)	49 (26.9)
Description of relevant collateral history	58 (27.9)	20 (10.4)
Past medical history	183 (88.8)	21 (10.9)
Past surgical history	197 (94.7)	48 (25.0)
Relevant psychosocial history	0 (0.0)	0 (0.0)
Current medications	156 (75.0)	14 (7.2)
Allergies	123 (59.1)	0 (0.0)
Relevant clinical findings	116 (55.7)	8 (4.1)
Results of investigations to date	74 (35.5)	4 (2.0)
Outline of management to date	0 (0.0)	0 (0.0)
Provisional diagnosis or clinical impression	111(53.3)	10 (5.2)
Statement of what is expected from the referral	0 (0.0)	0 (0.0)
Writing style		
Title of each paragraph	0 (0.0)	0 (0.0)
Paragraphs to 5 sentences	0 (0.0)	0 (0.0)
Sentence includes an idea	0 (0.0)	0 (0.0)

## Discussion

The study assessed the quality of referral letters using a tool that evaluates quality of the consultation and referral request.

The first evaluated item related to the patient's demographic data. Only the patient's name had been written entirely in the referral letters. In referrals to gynecologists and cardiologists, the patient's age had been recorded in 44.7% and 29.7% of cases, respectively. Information on patients' identification number and contact details were not mentioned. Although the contact details of physicians are crucial for inter-provider communications, the telephone numbers of referring physicians and names of receiving specialists were not provided on the evaluated referrals.

According to our results, the reason for referral was mentioned more often in letters addressed to gynecologists than to cardiologists (71% vs. 14%). Such a difference could be due to the existence of a specific form for women's reproductive health conditions. Leonard et al.<sup>9</sup> concluded that if the reason for the referral is not explained clearly to patients, they may avoid appearing at the specialized service. The authors also suggested that the precise inclusion of the reason for referral increases the probability of consulting and receiving a reply or counter-referral from the specialist. Apparently due to specific policies and emphasis on prevention of maternal mortality in Iran, plus participation by midwives and the use of a specific referral form, transferred data were more complete in referrals to

gynecologists when compared to referrals to cardiologists. According to our findings, the reasons for referral were inappropriate in 21% of the documents. This finding corroborated Dafallah et al.<sup>10</sup>, who found that 27.2% of the reasons for referrals were inappropriate.

The positive effects of structured forms have been emphasized in several studies. Struwig et al.<sup>11</sup> in a study on psychiatric referrals concluded that structured referral forms facilitate the effectiveness of the referral process and have positive effects on patient satisfaction, quality of care, and expenses.

Based on the present study's results, in forms used to refer cases to cardiologists, information on the patient's principal complaint was neglected. For example, only 27% of such referrals contained the main symptoms, i.e., little information on symptoms had been communicated to the cardiologists.

Blundell et al.<sup>12</sup> found that inclusion of the patient's medical information and full access by authorized providers to patient's medical records are crucial features of functional referral. However, our study found that information on the patient's disease and surgical history was only provided for on pregnant women's referral forms, and that such information in cardiovascular cases was communicated in a more case-by-case manner.

Our study found that data on patients' psychiatric and social conditions, current medications, and allergies were not relayed adequately to cardiologists. However, the recording of such information was provided for on a specific referral form for the pregnant woman. In cases referred to gynecologists, the specific referral form was apparently used as a checklist for information exchange. The referral forms for pregnant women also provided for information on the patient's previous appointments, and these data were transferred in a relatively complete and accurate manner when compared to cardiovascular referrals.

We found that presumptive diagnosis lacked the required quality, particularly in cases referred to cardiologists. Transferring data on referral expectations had been ignored in both generic and specifically designed referral forms. None of the referral forms provided information on disease management and contingency plans. Besides, information items were not provided in specific paragraphs, and the bulk of information was not provided with a clear structure. Although referral letters directed to gynecologists were more specific, they did not provide enough space to support criteria for referral writing styles.

## Conclusion

According to our results, structured referral forms increase the possibility of seamless exchange of information between providers. GPs and specialists should agree on the content of referral forms. Reinforcing skills of GPs in writing referral letters is essential. Further studies are needed to design and implement specific referral forms for all groups of diseases.

## Contributors

A. Janati contributed to the study design, data analysis, and writing the article. A. Amini contributed to the study design, data collection and analysis, and editing of manuscript. D. Adham contributed to the data collection and analysis and writing the article. M. Naseriasl contributed to the study design, data collection and analysis, and writing the article.

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## References

1. Vermeir P, Vandijck D, Degroote S, Ommeslag D, Van De Putte M, Heytens S, et al. Mutual perception of communication between general practitioners and hospital-based specialists. *Acta Clin Belg* 2015; 70:350-6.
2. Nestel D, Kidd J. Teaching and learning about written communications in a United Kingdom medical school. *Educ Health (Abingdon)* 2004; 17:27-34.
3. Ramanayake RP. Structured printed referral letter (form letter): saves time and improves communication. *J Family Med Prim Care* 2013; 2:145-8.
4. Bislev LS, Mortensen J, Gustafsson LN, Gregersen S, Munk-Jorgensen P. Poor quality of referral from mental to somatic hospitals. *Dan Med J* 2015; 62:pii:A5085.
5. Smith S, Khutoane G. Why doctors do not answer referral letters. *S Afr Fam Pract* 2009; 51:64-7.
6. Jiwa M, Ward PR. Will the need for effective communication between doctors redefine primary care? *Australas Med J* 2009; 1:1-9.
7. Stainkey LA, Seidl IA, Johnson AJ, Tulloch GE, Pain T. The challenge of long waiting lists: how we implemented a GP referral system for non-urgent specialist appointments at an Australian public hospital. *BMC Health Serv Res* 2010; 10:303.
8. Francois J. Tool to assess the quality of consultation and referral request letters in family medicine. *Can Fam Physician* 2011; 57:574-5.
9. Leonard I, Babbs C, Creed F. Psychiatric referrals within the hospital: the communication process. *J R Soc Med* 1990; 83:241-4.
10. Dafallah SE, Yousif EM, Idris AA. Analysis of documents used in referral system in Wad Medani, Sudan. *Saudi Med J* 2005; 26:148-50.
11. Struwig W, Pretorius P. Quality of psychiatric referrals to secondary-level care. *S Afr J Psychiatry* 2009; 15:33-6.
12. Blundell N, Clarke A, Mays N. Interpretations of referral appropriateness by senior health managers in five PCT areas in England: a qualitative investigation. *Qual Saf Health Care* 2010; 19:182-6.

## Resumo

*Um componente essencial do sistema de encaminhamento de pacientes é a comunicação efetiva entre clínicos gerais e especialistas. A comunicação escrita é a ferramenta de comunicação mais comum entre clínicos gerais e especialistas. O estudo teve como objetivo avaliar a qualidade (conteúdo da informação) de cartas de encaminhamento escritas por clínicos gerais e dirigidas a ginecologistas e cardiologistas. Os autores avaliaram a qualidade das cartas de encaminhamento através de um estudo transversal em aldeias em torno da cidade de Sarab, localizada na Província de Azerbaijão Oriental, no Noroeste do Irã. O estudo foi realizado em agosto e setembro de 2015, quando 400 cartas de encaminhamento foram avaliadas com base em critérios específicos de qualidade. O estudo adotou a amostragem por aglomerados, e os dados foram coletados através de um instrumento desenvolvido pelo Departamento de Medicina Familiar da Universidade de Manitoba, Canadá. Um formulário foi projetado especificamente para encaminhar as mulheres à ginecologia. As cartas de encaminhamento para a ginecologia mostraram qualidade superior quando comparadas aos casos encaminhados à cardiologia. A proporção de cartas legíveis foi 73%. Recomenda-se que cartas de encaminhamento sejam desenvolvidas em cooperação entre os departamentos, para diferentes grupos de doenças. Além disso, os médicos de atenção primária devem ser capacitados para redigir cartas de encaminhamento adequadas.*

*Referência e Consulta; Clínicos Gerais; Atenção Primária à Saúde*

## Resumen

*Un componente esencial del sistema de derivación de pacientes es la comunicación efectiva entre médicos generales y especialistas. La comunicación escrita es la herramienta de comunicación más común entre médicos generales y especialistas. El estudio tuvo como objetivo evaluar la calidad (contenido de la información) de cartas de derivación escritas por médicos generales y dirigidas a ginecólogos y cardiólogos. Los autores evaluaron la calidad de las cartas de derivación, a través de un estudio transversal en aldeas en torno a la ciudad de Sarab, localizada en la provincia de Azerbaijón Oriental, en el noroeste de Irán. El estudio se realizó entre agosto y setiembre de 2015, cuando 400 cartas de derivación se evaluaron en base a criterios específicos de calidad. El estudio adoptó la muestra por aglomerados y los datos se recogieron a través de un instrumento desarrollado por el Departamento de Medicina Familiar de la Universidad de Manitoba, Canadá. Se proyectó un formulario específicamente para derivar a las mujeres a ginecología. Las cartas de derivación para ginecología mostraron calidad superior, cuando se comparan a los casos derivados a cardiología. La proporción de cartas legibles fue de un 73%. Se recomienda que las cartas de derivación sean desarrolladas en cooperación entre los departamentos, para diferentes grupos de enfermedades. Asimismo, los médicos de atención primaria deben estar capacitados para reenviar cartas de derivación adecuadas.*

*Remisión y Consulta; Médicos Generales; Atención Primaria de Salud*

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