Knowledge of Referral and Feedback System among Higher Level Health Care Providers in Amhara Region, Northwest Ethiopia

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Citation: Befekadu A, Zeru T (2023) Knowledge of Referral and Feedback System among Higher Level Health Care Providers in Amhara Region, Northwest Ethiopia. Health Sci J. Vol. 17 No. 3: 1003.

Abstract

Introduction: A referral system is the interrelationships and coordination of patient care services from one health care facility to another. It connects patients with health care providers and ensures that they receive the necessary care and thus improving the quality of care for the patient through better coordination and management of services between facilities. However, despite the growing awareness of problems associated with referrals among health care providers there is no study conducted to improve referral systems by assessing levels of awareness of referral and feedback services among higher professionals in primary and tertiary level health care providers.

Objective: The aim of this study was to assess knowledge of referral and feedback system among higher level health care provider in primary and tertiary level health care providers Amhara region, Ethiopia.

Method: An institutional based cross-sectional study was conducted from September 30 to October 30, 2021 among primary and tertiary level health care, Amhare region. Random sampling technique used to select 223 participants. Self- administer questionnaire used to collect the data. Bivariabl and multivariable logistic regressions performed to see the effect of each independent variable on the dependent variable.

Result: More than half (54.7%) of higher level health care providers had good knowledge of referral system. Only (15.2%) (95% CI: 10, 20) of respondents had good knowledge of feedback. Factor associated with knowledge of referral system was interdepartmental protocol [AOR: = 2.2, 95% CI: (1.08, 4.51)]. Sex [AOR: =4.5, CI 95% (1.03- 19.97)], follow up (AOR= 2.40, CI 95%

(1.13, 5.13)] Were also significantly associated with knowledge of feedback system.

Conclusion and recommendation: A total of (54.7%) of the respondents had good knowledge of referral systems. Only 15.2% of higher level professionals were good knowledge of feedback. About 157(70%) of respondents did not write feedback. The reasons not written feedback were 56(25.1%) workload, 46 (20%) lack of feedback form and 33(14.8%) lack of awareness. Interdepartmental protocol, Sex and follow up were associated with referral and feedback systems respectively. So efforts need to strength follow up systems and female professionals should increase knowledge of feedback systems through highly practice of referral systems. And, every health facility should avail and adhere interdepartmental protocol to increase knowledge of referral system.

Keywords: Knowledge; Referral; Feedback; Higher level health care providers

Background

A referral system is the interrelationships and coordination of patient care services from one health care facility to another. It connects patients with health care providers and ensures that they receive the necessary care and thus improving the quality of care for the patient through better coordination and management of services between facilities [1]

World Health Organization on international conference on primary health care held at Alma-Ata emphasis that properly organized

referral process as a means of achieving success in quality of health care [2]. However, study done in Mozambique found that the weak referral process as a critical challenge due to its limited functionality; lack of feedback [3] and misunderstanding of the referral system [4].

In Ethiopia, study done in study area (Felegehiwot hospital) cross sectional study on Emergency Obstetrics and Gynecological chart review result also found that, among referred patients only 28.2% had standard referral papers and 0.23% of referral feedback. The study explains that the health professionals had lots of limitation about skills, knowledge and resource among the referral facilities. In addition, feedback was totally neglected [5].

Referral and feedback systems are determined by practice of physician related to referral and feedback systems [6]. Organizational characteristics and socio demographic characteristics [7-9]. However, until now there are no study conducted about the levels of awareness and factor affecting the provision of referral and feedback systems in developing countries [10]. In Ethiopia also the integration of lead and member hospital still not well study.

Therefore, to fill this gap the present study aims to assess the levels of awareness of higher levels of health care providers about referral and feedback systems and factors affecting them among primary and tertiary level health care, Amhara region, Ethiopia. The study will help to design appropriate referral systems and to increase the efficiency of the health system, create well integrated referral systems and, improve the decision making capacity of professionals at the higher levels of the referral network by maximizing the appropriate use of health care facilities & permitting an efficient division of tasks between primary and specialists' hospitals.

Methods and Materials

An institutional based cross sectional study was conducted from September 30/2021 to October 30/2021 in Northwest Ethiopia. The study conducted eight primary and two tertiary hospitals from September 30/2021 to October 30/2021.

Study population

General Practitioner, Integrated Emergency surgery and obstructers, specialist and sub- specialist who were working in the selected hospitals during the study period included.

Inclusion and exclusion criteria

Inclusion

All General Practitioner, Integrated Emergency surgery and obstructers, Specialist and sub- specialists who were working in the selected hospitals were included.

Exclusion

Higher level professionals (General Practitioner, Integrated Emergency surgery and obstructers, specialist and sub -specialist) who were

• On practice or work under supervision

• On leave will be also exclude

Sample Size Determination

A single population proportion determinant formula was used to determine the sample size for this study. A study conducted in Nigeria (Tolulope O, et al. 2018) found that 54.2% of the respondents of health care workers had good understanding of the concept of referral This value was adapted in this study to obtain the maximum sample size at 95% certainty and a maximum discrepancy of 5% between the sample and the population.

n= maximum sample size

P=% (study conducted in the four most populous regions of Ethiopia d= Marginal error between sample and population (0.05)

$z\alpha/2$= critical value at 95% confidence interval (1.96) n= (1.96)2 X 0.64X (1-0.64)/ (0.05)2= 382

Then, the minimum sample size of a finite population (<10,000) determined using the following formula:

nf= 1+n N

Where N = Estimate of the population size; nf = Desired sample size when population is <10,000 and n = Desired sample size when population is <10,000; nf = 382/ (1+ 382/434) = 203

An additional 10% (20.3) has been added as a contingency to increase power and compensate for possible non-response.

Data collection procedure

Structural questioner was prepared in English, and translated in to a local language, Amharic, to make the questionnaire easily understandable for the respondents. And back to English to check the consistency of the meaning. The questionnaire was developed based on adaptation and review of previous national and international literature, policies and guidelines.

And, it was comprised four sections:

1. Section A: Socio demographic information
2. Section B: organizational characteristics
3. Section D: Knowledge about referral
4. Section E : Knowledge about feedback system

The data was collected through self-administer questioner

Data collection procedure and quality control

Before the actual data collection, ten supervisors who are BSC nurses and ten diploma data collectors recruited and trained about the basic techniques of data collection for one week. The issue of confidentiality and privacy was emphasized during the training session. Accordingly, participation in the study was in voluntary base, and anonymity of participants is maintained using codes instead of names. Besides, data collectors were approach the respondents after informed consent is obtained. Cronbach's Alpha test reliability was used to determine the reliability of the instrument. The Cronbach's Alpha Reliability statistics gave 0.7 and 06for knowledge of referral and feedback system respectively.

Data Processing and Analysis

Data was first checked manually for completeness and consistency by supervisors and principal investigator. Then, entered and cleaned using Epi info version 7 and exported to SPSS version 20 for analysis. Then, descriptive statistics used for organizing, describing and summarizing purpose.

Factors became significant at 0.2 p- values from the invariable analysis was further tested in multivariable logistic regressions by using backward logistic regression methods. Odds ratio and adjusted odds ration with 95% confidence interval calculated to assess the strength of association between variables. And, p- value less than 0.05 was considered statistically significant or associated factors of referral and feedback.

And, to see the relative effect of independent variable on dependent variables, logistic regression analyses also performed.

To identify higher level health care provider with good awareness of referral and feedback service "1" point is coded for a correct answer and "0" for an incorrect answer. And, an overall score was calculated by adding up the scores for each respondent across all questions by using composite score analysis. And, the score analysis was analyzed in to record in to different variables analysis in order to level as good or poor.

Results

Socio demographic characteristics

A total of 223(100%) higher level health care providers from primary and tertiary health care level participated in the study with 100% response rate. 181(81.2%) of male and 42(18.8%) female. The mean age of the respondents was 30.22 + 4.4 years. More than half 143(64.1%) of the respondents were in age group of 21-30. 75(33.6%) were between 31-40. The majority 210(94.2%) were orthodox Christianity. One hundred twenty one (54.3%) were single. Regarding to profession, 115(51.6%) of General practitioner, 92(41.3%) Specialist, 6(2.7%) Sub- specialist and 9(4%) IESO.

Organizational characteristics

All facilities were not given training about referral system. Majority 222(99.6%) had standard referral form. One hundred forty eight (66.4%) of health facilities had standard feedback forms. 139(62.3%) and 117(52.5) had interdepartmental and annual revised admission protocols respectively.

Practice of referral and feedback systems

Almost all 220(98.2%) of respondents were referred their patients to diagonal and horizontal level health facilities. Among the respondents who referred their patients, 119(53.4%) were refer sometimes and 83(37.2%) occasionally. Only 69(30.9%) of them were follow their patients after referred and 157(70%) of them were not write feedback. The reason why not written feedback mentioned were 56(25.1%) workload, 46 (20%) lack of feedback form and 22(9.9%) perceived not importance. Majority 197(88.3%) not obtained feedback after refer their patients from the receiving facility. Majority, 210(94.2%) of respondent said not received any training about referral systems.

Knowledge of referral systems

More than half, 152(68.2%) of respondents correctly responded that referral can be horizontal and 171(76.7%) referral can be diagonal. One hundred twenty (53.8%) of higher level health care professionals correctly respond that there are three level of referral. Regarding ways of referral 167(74.9%) of them correct responded that, referral systems is a two way system relationship between a health care provider in a health care facility at one level of the health care system and another health care provider in a health care facility at the same or higher level of the health care system.

Regarding feedback system, one hundred thirty four (60.8%) high level health care providers were informed about mechanism to truck referral feedback. Two hundred nineteen (98.2%) were knew importance of feedback. More than half, 129(57.8%) of respondents were awareness about the way feedback written from.

Factor associated with referral system

Health facilities those who had inter-departmental protocols had 2.2 time [AOR: = 2.2, 95% CI: (1.08, 4.51)] more likely to have good knowledge of referral systems than those who had not interdepartmental protocol.

Those higher levels professionals who were Male Gender were 4.5 times [AOR: =4.5, CI 95% (1.03- 19.97)] more knowledgeable about the referral system than female. And, those health professionals who were follow their patients after referred to other facilities were 2.32 times (AOR= 2.40, CI 95% (1.13, 5.13)] more knowledge about feedback systems.

Discussion

The study has attempted to assess knowledge of referral and feedback systems among higher level professionals in primary and tertiary health care level. The study revealed that 54.7% of higher level health care providers had good knowledge of referral systems. This finding is relatively lower than compared to study done in Nigeria (93.8%) [11]. This can be received periodic training on referral system. But, in contrast with the result of the study in Iran where the health care providers were insufficient knowledge about referral systems [12]. The possible reason of this difference will be due to the study used different study design (Qualitative study design).

Moreover, this study showed that only 15.2% (95% CI: 10, 20) of respondents had good knowledge about feedback systems. This result is lower than the study done in Nigeria (81.3%) [13]. the result is in consistence with Nasrollahpour Shiravani et al. study where poor feedback as a common problem in the referral system. Systematic review evacuation of rural and urban physician found that feedback function was performed poorly in physicians.

In addition, 92.8% and 97.8% of respondents were mentioned that the patient has the right to know (why, where, when) to be referred and the right to discuss referral options and alternatives

respectively. The possible reason could be the decision to refer might be frightening or distressing for the client and their family so the higher level health care providers have empathy and give the client relevant information such as: Reasons and importance of the referral, risks associated with refusal of referral, how to get to the receiving facility – location and transport, who to see and what is likely to happen, the process of follow-up on their return. In contrast to this finding evidence showed that higher levels health care providers are expressed reluctance to provide advice to patients, because they did not consider this task a part of their job [14, 15].

The study also confirm that, only 20(10%) received feedback from the referred institute. This finding is lower than study conducted in Bangladesh (33%). and, Iran (36%) [16] And, Nigeria 197(88.3%) [17]. the difference could be there is minimal coordination between the referred institute and the receiving facility in the present study area or it could be lack of necessary connections in the hierarchy of the referral system.

In addition, the study showed that almost all 220(98.7%) of respondents were refer patients to other health facilities. However, among these only 69(30.9%) of them were make follow up after referred. This finding is contrast with study done in Gonbe state Nigeria, where (88%) of physician were refer their patients and 63% follow after refer [18]. The difference might be the study did not participated higher level health care providers who were working tertiary level health facilities and used small sample size. On the other hand, this result is higher than Iran (3.17%) [16]. the cause of this difference could be due to data source. The study used secondary data but the present study used primary data source

Regarding factor associated with referral system, the study showed that those health facility who had inter-departmental protocols had 2.2 time [AOR: = 2.2, 95% CI: (1.08, 4.51)] more likely to have good knowledge of referral systems than those who had not interdepartmental protocol. This might be interdepartmental protocols helps as a communication tools and integration of services between professionals it might be enhances knowledge of health professional.

The study also showed that those higher level professionals who were being male was 4.5 times [AOR; =4.5, 95% CI: (1.03, 19.97) more likely to have good knowledge of feedback system than female. The possible reason would male were more exposure of feedback than female. The present studies also confirm that 56(25%) of respondents of male sex were written feedback and only 10 (4%) female. This may depend on degree of urgency, immediate availability, or lack of confidence in the response to referral. This explanation was supported by study done in Eastern Denmark found that female physician were spent their time on the patient side rather than reading official information about quality at various department [19].

Factors related to feedback system were, respondents who were following their patient after referred were 2.4 [AOR: = 2.4, 95% CI (1.13, 5.13) times more knowledge than those who were not follow their patients. This might be because; at the time of follow

up the respondents share different information and build their capacity and used a means to improve their knowledge.

The study also confirms that socio demographic characteristics of respondents were not associated with knowledge of referral and feedback systems. This is line with study done in Enugu state Nigeria. There was no statistically significant between knowledge category and age [20].

Conclusion

More than half (54.7%) of the respondents had good knowledge of referral systems. But, only 15.2% of higher level professionals were good knowledge of feedback. About 220(98.2%) of respondents were referred their patients to other health facilities. 157(70%) of respondents were not write feedback. The reason why not written feedback mentioned were 56(25.1%) workload, 46 (20%) lack of feedback form and 33(14.8%) awareness. Majority, 210(94.2%) of respondent not received any training about referral systems. Those respondents who had Interdepartmental protocol were associated with referral systems and respondents being male and follow patients after referred were factor associated with feedback systems.

Abbreviations

CEO: Chef Executive Officer; GPs: General Practitioners; IESO: Integrated Emergency surgery and obstructers; MOH: Ministry of Health; PHC: Primary HealthCare; PHCUs: Primary Health Care Units; SPSS: Statistical Package for Social Science; WHO: World Health Organization Declarations

Ethical approval and consent to participate

Ethical clearance was obtained from the Ethical Review Board of Amhara Public Health Institute. The Institute was written letter of support for selected hospitals. Then, letter of permission was obtained from the head of each facility. Besides, all participants were informed about the purpose and the confidentiality of the information. And, anonymity of participants was maintained using codes instead of names. Besides, data collectors were approach the respondents after obtained signed consent

Consent for publication

No applicable

Authors' contributions

AB developed proposal and data collection tools, analysis data and interpretation of the findings. TZ participated in proposal development and preparation of manuscript all authors analyzed, interpret the result, review, commented and approved the final version of manuscript.

Acknowledgement

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