

Factors Affecting the Implementation of Continuous Quality Improvement in Health Facilities of Southern Nation and Nationalities People Region (SNNPR)

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Abstract

Continuous Quality improvement has become an important aspect of healthcare organizations. The objective of this study was to identify contributing factors for implementing continuous quality improvement projects in health facilities for the better delivery of health care service in the case of south nation and nationalities people, Ethiopia. Cross-sectional study was conducted from April to May 2018 in SNNPR of two district woredas health facilities. Descriptive, bivariate and multivariate analysis used, during the analysis, 0.05 p-value and 95% confidence interval (CI) was used to judge the significance of the associations. So that p-value less than 0.05 were taken as significant association. The finding of this study showed that, a total of 144 health professionals were participated, giving a response rate of 100%. Majority of the respondents (75%) were male and 35% said that their respective health facility implemented continuous quality improvement project. More than half of (51.4%) the leaders were not receptive for new ideas; moreover, majority of leader were not encouraging learning (62.5%) and not engaged in quality improvement project implementation process (66%). Variables like leaders receptive to new ideas, leaders share information/ data about health facility service delivery status, health facility has a quality improvement project plan, staff know using indicators to tell progress about service delivery, health facility assess client satisfaction level, were the independent predictors of continuous quality improvement(CQI) project implementation.

Introduction

Today, everyone involved in the healthcare system: professionals, patients and their families, researchers, payers, programmers and educators to have a better patient outcomes (health), better system performance (care) and better professional development, needs Continuous Quality improvement (CQI) [1]. CQI has become an important aspect of healthcare organizations. Healthcare organizations are forced to change and improve, due to an aging population (demographic pressure) [2] technical innovations and medical treatment development [3] financial strains and expectations of stakeholders such as government and patients [4].

The study done in the quality improvement of public health stated that healthcare, by eliminating inefficiency, error, and redundancy can continually improve critical processes and reduce costs associated with poor quality [5].

Ethiopia has implemented a number of innovative and successful national interventions for improving

quality of care and Water and Sanitation Hygiene (WASH) in its health care facilities [6]. The 2015-2020 Ethiopian National Health Care Quality Strategy (NQS) was crafted as a call to action to improve quality across the entire Ethiopian health system. Formally launched in March 2016, it was developed in order to achieve the health improvement goals stated in the Health Sector Transformation Plan. The NQS was launched as part of the four transformation agenda unveiling where all Regional Health Bureaus (RHBs), representative health facilities and health care workers were included as part of the process [7].

The NQS builds on the existing quality effort in Ethiopia which includes a number of national quality initiatives and tools that have been developed and implemented over the last 20 years – all of which have been aimed at improving the quality of health care delivery and services.

The aim of the NQS is to consistently improve the outcomes of clinical care, patient safety, and patient-centeredness, while increasing access and equity for all segments of the Ethiopian population, by 2020 [7]. The strategy focuses on ensuring reliable, excellent clinical care, protecting patients, staff, and attendants from harm, and improving the efficiency of the delivery of care, while increasing access, equity, and dignity of care for all segments of the Ethiopian population.

The international non-governmental organization “Institute for health care improvement (IHI)” has proposed a five-year project aiming to introduce continuous quality improvement (CQI) approaches and improve maternal and newborn health (MNH) care in five regions of Ethiopia, namely Tigray, Afar, Amahara, Oromia and South nation and nationalities people region (SNNPR) [8]. Thus, the main objective of this study was to identify contributing factors for implementing continuous quality improvement projects in health facilities for the better delivery of health care service in the case of south nation and nationalities people, Ethiopia.

Materials And Methods

Study Area

The study was conducted in Southern Nation Nationalities People Region (SNNPR) of two districts woreda health facilities, namely Dugana fango Woreda (Wolita zone) and Chenchu Woreda (Gamogofa zone).

Study Design and Period

A cross-sectional study design with quantitative approach was employed to conduct the investigation on continuous quality improvement project implementation factors in the health facilities of SNNPR, Ethiopia; from April to May 2018.

Sample size determination & Sampling procedure

The convenient sampling technique was used to select the research participants from two districts woredas of SNNPR all health facilities, since there is limited time and resource for data collection.

Accordingly, six health centers (Dorze, Ezzo, Doko Zolo, Wobera, Zozo, Dokomesho) and two hospitals (Chencha primary Hospital & Arbaminch general hospital) from Chencha woreda, Gamogofa zone and Five health center (Dendo, Edo, Kerchech, Dimitu and Anka) and one hospital (Bitena primary Hospital) from Dugna fango Woreda, Wolita zone were included in the study. Thus, conveniently selected 144 health care providers and leader working in IHI supported health facilities were participated in the study.

Data Collection Instrument and Procedure

Self-administered structured questioner was used as a data collection instrument. After having their verbal consent, data on factors contributing for quality improvement project implementation, the health professional's level of involvement, challenges faced during CQI project implementation and stakeholder involvement for the continuous quality improvement project implementation in the health facilities were collected by administering a pre-tested structured questionnaire. Malcolm Bridge national quality award criteria (MBNQAC) data collection tool adopted from National Institute of Standards and Technology (NIST) of United States was used [9].

Data analysis

Data was checked manually for completeness, and then coded, entered and analyzed using SPSS version 20 software. After the data was explored and cleaned, descriptive analyses such as percentages, frequency distribution and measures of central tendency were conducted. Then bivariate analyses between dependent and independent variables were performed using bivariate logistic regression. Finally, those variables showed significant association on bivariate analyses were entered in to multiple logistic analyses to control possible confounding variable and to identify independent predictor variable. During the analysis, 0.05 p-value and 95% confidence interval (CI) was used to judge the significance of the associations. So that p-value less than 0.05 were taken as significant association.

Ethical Consideration

The study was reviewed by Institutional Review Board of Addis Ababa University. Ethical clearance was obtained and submitted to each Zonal Health Administration. Concerned management officials of the health facilities were informed about the study. In addition, the respondents were asked for their consent prior to the tools to gather the relevant information. The respondents' responses were taken absolutely confidential and they were informed that no part of their response will be exposed to anyone without their complete consent

Results

Socio-demographic characteristics

A total of 144 health professionals were participated in this study all of them were willing and replied to the interview, giving a response rate of 100%. Majority of the respondent of was 103 (75%) were male. Concerning about the age group the majority which is 79 (54.9 %) were found with the age group of between 22 and 30 years. The table also denotes that 49 (34 %) of the respondents were nurses, 76 (52 %) of have diploma in their education, as showed in the table 1 below.

Table 1:- Socio demographic characteristics of Health professionals working SNNPR, Ethiopia, (N= 144).

Variable	Frequency	Percent
Sex		
Male	108	75
Female	36	25
Total	144	100
Age		
22-30	79	54.9
31-40	49	34.0
41-50	16	11.1
Total	144	100.0
Profession		
Midwife	32	22.2
Nurse	49	34.0
HO	32	22.2
Physician	8	5.6
HIT	8	5.6
Other	15	10.4
Total	144	100.0
Educational level		
Diploma	76	52.8
Degree	52	36.1

Post graduate	16	11.1
Total	144	100.0
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Working facility		
Health center	80	55.6
Hospital	44	30.6
Woreda health office	20	13.9
Total	144	100.0
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Implementation status of continuous quality improvement project

Among the 144 respondents 65% said that their respective health facility, whether health center or Hospital, implemented continuous quality improvement project. There rest 35 % did not even start the implementation preliminary process to improve the service delivery related health care.

Leadership factors that contribute for implementations of CQI project

Leadership factors that contribute for continuous quality improvement project implementation assessed by leader's receptiveness for new idea, use of organization value, creating safe work environment and others. Accordingly, as showed in the table 2 below more that halve of (51.4%) the leaders were not receptive for new ideas moreover, majority of leader were not encouraging learning (62.5%) and not engaged in quality improvement project implementation process (66%).

Table 2: Leadership factors that contribute for implementations of continuous quality improvement project in the health facilities of SNNPR, Ethiopia, 2018

Variable	Frequency	Percent
leaders receptive to new ideas		
Yes	62	43.1
No	74	51.4
I don't know	8	5.6
Total	144	100.0
leader's uses values of the organization's to guide health facility activities		
Yes	46	31.9
No	86	59.7
I don't know	12	8.3
Total	144	100.0
leadership created a safe work environment		
Safe work environment created	36	25.0
There is initial activities to create safe working environment	80	55.6
Safe working environment not created	28	19.4
Total	144	100.0
leaders share information/ data about health facility service delivery status		
Yes	97	67.4
No	47	32.6
Total	144	100.0
leadership encourages learning		
Yes	44	30.6
No	90	62.5
I don't Know	10	6.9
Total	144	100.0
leadership asks employees to generate change/innovative ideas		
Yes	51	35.4
No	93	64.6
Total	144	100.0
leaders was engaged in quality improvement projects		
Yes	45	31.3
No	95	66.0
I don't Know	4	2.8
Total	144	100.0

Customer factors that contribute for implementations of CQI project

To implement quality improvement projects ultimately customer related factor used for identifying quality related problems and implementing the possible solution as a project. Unfortunately, only 50% and 38.4% of respondent said the health facilities has client feedback receiving mechanisms and health facilities measures client satisfaction regularly, respectively, as showed in the table 3 below.

Table 3: Customer factors that contribute for implementations of continuous quality improvement project in the health facilities of SNNPR, Ethiopia, 2018

Variable	Frequency
<hr/>	
health professionals understand clients need	
Yes	108
No	28
I don't know	8
Total	144
<hr/>	
health professionals understand client's preferences	
Yes	72
No	63
I don't know	9
Total	144
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health facility have client feedback receiving mechanism	
Yes and reviewed frequently	72
Yes but not reviewed	52
No	16
I don't know	4
Total	144
<hr/>	
health facility assess client satisfaction level	
Yes regularly	56
Yes but not regular	60
No	28
Total	144
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health facility Encourage Clients/ community involvement in decision making	
Yes regularly	44
Yes but not regular	72
No	28
Total	144
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Human resource factors that contribute for implementations of CQI project

Only twelve (8.3%) respondent said their respective health facilities staff fully trained on quality improvement project implementation. Majority of respondent (61.1%) mentioned that, staff recognition for the work they performed in the health facilities was available. Quality improvement teams for project implementation were available in the 63.9% in the health facilities were respondent work. Only 27.3% of respondent said that their respective health facilities have enough health staff to implement continuous quality improvement project, as showed in the table 4 below.

Table 4: Distribution of human resource factors that contribute for implementations of continuous quality improvement project in the health facilities of SNNPR, Ethiopia, 2018

Variable	Frequency
health staff cooperate and work as a team	
Yes	116
No	28
Total	144
health staff are recognized for their work	
Yes	88
No	56
Total	144
staff have job descriptions	
Yes	57
No	87
Total	144
health staff trained on quality improvement	
Yes all of the staff	12
Yes some of the staff	120
No	12
Total	144
Quality improvement committee or team	
Yes	92
No	44
I don't know	8
Total	144
health facility has enough health staff	
Yes	40
No	104
Total	144

Determinants of continuous quality improvement project implementation

In order to determine the association of independent variables with continuous quality improvement project implementation both bivariate and multi-variate analysis were used. Variables that showed association with the outcome variables in the bivariate analysis were selected for multivariate analysis. Variables like leaders receptive to new ideas, leaders share information/ data about health facility service delivery status, health facility has a quality improvement project plan, staff know using indicators to tell progress about service delivery, health facility assess client satisfaction level, health

staff are recognized for their work, health staffs satisfied with their work, quality improvement project contribute the improvement of work at your Health facility and leadership encourages learning were the independent predictors of CQI project implementation as showed in the table 5 below .

Table 5: Factor associated with continuous quality improvement project implementation in the health facilities of SNNPR, Ethiopia, 2018

Variables	Implemented	Not implemented	COR (95%
Leaders receptive to new ideas			
No	10(20%)	64(68.1%)	0.156 (0.03
Yes	36(72%)	26(27.7%)	1.385 (0.3
I don't know	4 (8%)	4(4.3%)	1
Leaders share information/ data about health			
No	9(18%)	38(40.4%)	0.323 (0.14
Yes	41(82%)	56(59.6%)	1
Health facility has a quality improvement project plan			
No	5(10%)	27(28.7%)	0.276 (0.09
Yes	45(90%)	67(71.3%)	1
Staff know using indicators to tell progress			
No, they can't	7(14%)	27(28.7%)	1.815 (0.33
Yes, they able to report calculate indicators	22(44%)	20(21.3)	7.7 (1.554
Yes, they able to report progress figure	19(38%)	33(35.1%)	4.03 (0.826
I don't know	2(4%)	14(14.9%)	1
Health facility assess client satisfaction level			
No	3(6%)	25(26.6%)	0.137 (0.03
Yes regularly	19(38%)	37(39.4%)	0.587 (0.27
Yes but not regular	28(56%)	32(34%)	1
Health staff are recognized for their work			
No	11(22%)	45(47.9%)	0.307 (0.14
Yes	39(78%)	49(52.1%)	1
Health staffs satisfied with their work			
Not satisfied	22(44%)	58(61.7%)	1.043 (0.3
Yes, Satisfied			2.64 (0.73
I don't know	4(8%)	11(11.7%)	1

Quality improvement project contribute the improvement of work at your Health facility	No	5(10%)	29(30.9)	0.249 (0.09)
	Yes	45(90%)	65(69.1%)	1
leadership encourages learning	No	27(54%)	73(77.7%)	0.338 (0.16)
	Yes	23(46%)	21(22.3%)	1

Significantly associated with P- Value of <0.05.

According to the multivariate logistic regression analysis if the health facility has strategic quality improvement project plan, 84% of the health facility will implement continuous quality improvement project (AOR=0.138 (0.029 -0.652)). Similarly, if the health facility assess client satisfaction, even if the assessment is not regular, 90% (AOR=0.101 (0.019 -0.522)) of the health facility will implement continuous quality improvement project as compared to health facilities couldn't able to assess the satisfaction level of clients. Moreover, if the health facilities staff believe that quality improvement project contribute the improvement of work at their respective health facility, 80% (AOR=0.181 (0.047 -0.696)) of the health facilities more likely implement continuous quality improvement project as compared to those health facilities with staff not believe CQI project has contribution for their work.

Discussion

In this study the factors associated with continuous quality improvement project implementation studied. From the findings 35 % of the respondent mentioned their respective health facilities implemented continuous quality improvement project, which is low achievement compared to study conducted Srilanka (43%) [10].

In this study the logistic regression identified factor associated with continuous quality improvement project implementation. Availability of receptive leader for new idea 1.4 times more likely health facilities implemented continuous quality improvement project (AOR 1.385 (0.317-6.051)) and only 72 % of the leaders were receptive for new idea. This finding low as compared to other study which is 100% [11]. This discrepancy might be due to the setting and assessment tool differences.

Although the majority (77.8%) of responding indicated that health facility has a quality improvement project plan. Similarly, among health facility has a quality improvement project plan in 86% of health facilities CQI project were implemented (AOR 0.138 (0.029 -0.652)).

The questionnaire results showed that the majority of the respondents were not satisfied with their work (54%) and what they had accomplished, significant association showed if the staff satisfied by

their work 7 time more likely the health facility implement continuous quality improvement project (AOR 6.349 (0.993 - 40.588)). This finding similar with the study conducted Swedish County (12), the improvement idea had contributed to improve the work at the unit, and progress was assessed. The item “How much commitment do you feel toward the improvement idea?” showed a large engagement in the quality improvement initiative. In line with the above idea majority of the respondent believed that CQI will contribute for in work improvement. Moreover, in 82% health facilities which have health staff who believe on CQI contribute for improvement of their work 82% implemented CQI (AOR=0.181 (0.047 -0.696)). The finding also similar with study conducted Swedish County [12].

Over all, staff training on QI, team work and leadership engagement couldn't show significant association with continuous quality improvement project implementation even if it was mentioned by different scholars as an important determinant factor [13].

Limitations of the Study

One of the challenges in conducting this research was absences of adequate local studies in the area of continuous quality improvement project implementation factors in the health facilities.

Conclusions

Implementing quality improvement project is a pillar for improving client satisfaction but in SNNPR small number of health facilities have project to improve service delivery. The implementation of continuous quality improvement project associated with factors like leadership receptiveness, leadership encouragement for learning, health facility assess client satisfaction level, health staffs satisfied with their work. Strategic quality improvement plan shall be developed by each respective health facilities in the SNNPR in order to implement CQI project effectively.

Client satisfaction survey and client engagement in CQI project shall be done regularly to identify quality problems and to effectively implement appropriate quality improvement project.

Declarations

Abbreviations

AIDS=Acquired Immuno Deficiency Syndrome, CQI=Continuous Quality Improvement, IHI= Institute for Health care Improvement, FMOH= Federal Ministry of Health, MNH= Maternal and Newborn Health, NQS= National Health Care Quality Strategy, QI=Quality Improvement, RHB=Regional Health Bureaus, SNNPR= South Nation and Nationalities People Region.

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Availability of data and materials

The data that support the findings of this study will be available from the corresponding author upon reasonable request in the form of statistical package for social sciences (SPSS).

Authors' Contribution

NW and AG conceived the study, participated in the design, data acquisition, and drafted the paper. AG and DT critically reviewed the paper. All authors read and approved the paper.

Competing interests

The authors declare that they have no competing interests.

Consent for publication

Not Applicable.

Ethics approval and consent to participate

Ethical approval was obtained from department of project Management Addis Ababa University and submitted to the concerned management officials of the health facilities. In addition, the respondents were asked for their consent prior to the tools to gather the relevant information

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