

Importance Performance Analysis of Neonatal Care in Keerom, Papua

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Abstract- Keerom regency has a high neonatal and perinatal mortality rate. Consequently, Regency Health Services in Keerom proposed a program to improve the neonatal services. In order to conduct the program, some baseline data have to be analyzed. This study aimed to analyze the importance and performance of service quality in neonatal care. Two hundred and fifty three samples collected from Health Centers and analyzed in Cartesians' diagram. There were 5 service quality dimensions to be analyzed: tangibles, responsiveness, reliability, empathy and assurance.

In order to satisfy the participants, the most important thing to do is to improve the reliability dimension. Training for the health personnel is the very important way to improve the services.

Other dimensions of the service quality such as responsiveness, empathy and assurance have a low leverage to improve participants' satisfaction. Meanwhile tangible has the higher leverage to improve participants' satisfaction.

Index Terms- Importance, Performance, Neonatal, Cartesian Diagram

I. INTRODUCTION

Perinatal and neonatal death in Keerom, Papua considered very high. During 2012 were reported 2.74% still-birth, 31.9% neonatal death and 44.1% child death [1]. The highest neonatal death occurred in 4 Health Centers among 8 Health Centers in Keerom Regency.

According to Profit et al, the maternal and neonatal services concepts, referred to 3 aspects namely health system, determinant factors and service quality [2]. The components in health system consist of provider's organization, finance, regulation and service manner. The determinant factors consist of 2 aspects those are the individual and social aspects. Meanwhile, the service quality stresses on services by the health personnel. Mosley and Chen stated that socioeconomic determinant of neonatal death related to several variables such as parents' productivity, norm, tradition, income and ecological situation [3].

The referral system also considered has a big role in neonatal death. Hence in order a referral system could perform well, its strategy has to meet people and geographical condition [4]. Furthermore, the great portion of neonatal death caused by short of health facilities which usually happen in mothers who are giving birth at home [5]. For this purpose, a better policy in enhancing infrastructure and health personnel ability certainly needed in reducing neonatal death.

This study would describe health personnel's service performance whether it met to the patients' expectation.

II. MATERIAL AND METHODS

1.1 Study Area

The study was carried out at Keerom Regency, Papua, Indonesia. Keerom with 46,282 inhabitants is located in the southern part of Jayapura which is the capital of Papua. Keerom is divided into six districts (Web, Senggi, Waris, Arso, Arso Timur and Skanto). Each district has a Health Center however, the Health Centers under studies were chosen purposively.

1.2 Subjects

The subjects of this study were 253 women who have perinatal and neonatal death. A questionnaire inquiring the participants' characteristic and service quality was administered to those participants.

1.3 Statistical Analysis

Data were double entered, checked and cleaned. The data set analyzed with Statistical Product for Service Solutions (SPSS) version 19 and Microsoft Excel 2010.

Zeithaml et al proposed five dimensions to measure customers' satisfaction. For this purpose, a gap analysis was performed in order to find the agreement between perceptions and expectations of the participants against those five dimensions of service quality (tangible, reliability, responsiveness, assurance and empathy) [6]. Tangible is all the physical appearance that could be seen in service quality such as building, equipment, communication apparatus etc. Reliability referred to the ability of the health personnel giving the services to the customers accurately. On the other hand responsiveness means the willingness of the health personnel to look or to listen attentively to help customers. Meanwhile, assurance referred to the customers perceive being safe under health personnel's services. This term also related to competence, courtesy, credibility and security which in turn giving assurance to the customers. The fifth dimension of services quality is empathy which means the ability to know the specific demand of the customers thus give a best personal relation with them.

The main topic, actually are the expectations and perceptions of the customers. The customers would see their expectations through the certain importance services provided for them. A service could be considered as not worthy or not important although it was considered very important by the provider and vice versa. In case there is no agreement between provider's opinion and customers' opinion, a gap could happen and therefore there is no satisfaction.

The gap between customers' importance and health personnel performance then could be depicted in a Cartesians' diagram as a customers' window.

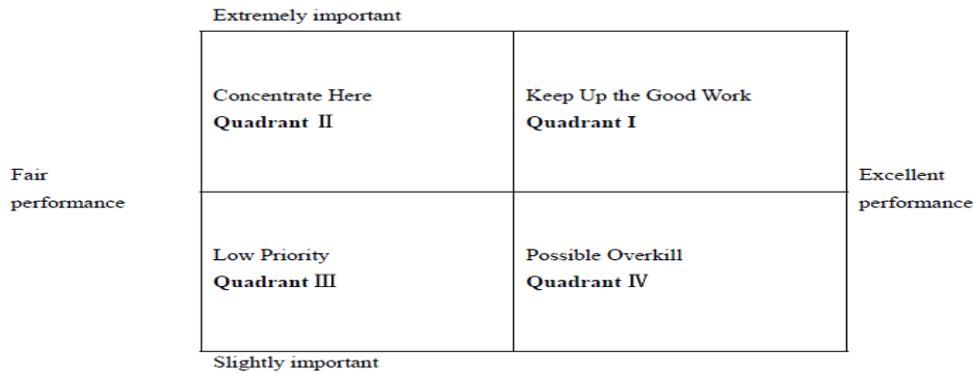


Fig 1. The Importance Performance Analysis [7]

The importance of the service quality showed in Y axis meanwhile the performance of the services showed in X axis. If the gap lies in the first quadrant (Keep up the Good Work), it means that importance meet the performances in a high quality services. The second quadrant (Concentrate Here) shows that, according to the customers the importance of services are high, but the performances of the health personnel are low. This position suggests that the providers has to give a first priority in enhance their services in order to satisfy their customers. The third quadrant (Low Priority) tells not only the services' importance is low, but also the performances of the health personnel. This quadrant suggests that there is not any priority measures needed. Lastly, the fourth quadrant (Possible Overkill) depicts the importance is low but performances of the health personnel are high. This quadrant suggests has a low leverage to improve customers' satisfaction.

1.4 Ethical Consideration

This study was approved by the ethical committee of Faculty Medicine, Hasanuddin University, Makassar, Indonesia. The

fundamental principles of ethics in research on human participants were upheld throughout the study. The research procedures were disclosed to the participants and informed consent was sought from them or their legal representatives. Nobody was coerced into the study and if individuals wished to withdraw, they were allowed to do so without prejudice.

III. RESULT AND DISCUSSION

There were 5 dimensions of service quality measured in gap analysis (tangible, reliability, responsiveness, empathy and assurance). Each dimensions asked with 29, 12, 7, 5 and 8 questionnaires respectively. In this analysis we compared the expectation or the importance of services provided by the provider against the health personnel performance. Table 1 showed the gap analysis.

Table 1. The Importance and Performance Gap in neonatal care

Dimensions	Items questioned	Importance (Y)		Performance (X)		Gap
		E	Mean	P	Mean	
	a	b	c	d	e	f
			= b/(n*a)		= d/(n*a)	= e-c
Tangible	29	26828	3.657	23627	3.220	-0.437
Reliability	12	11329	3.732	9064	2.985	-0.747
Responsiveness	7	6431	3.631	4965	2.804	-0.827
Emphaty	5	4603	3.638	3853	3.050	-0.588
Assurance	8	7219	3.567	6418	3.171	-0.396
Total	61	56410	18.224	47927	15.230	-2.994

n = samples= 253

Gaps found in all dimensions in neonatal care. The highest gap was in responsiveness and the lowest gap was in assurance. To find the importance of each dimensions of service quality, a Cartesian's diagram used. The average of importance and performance used as main coordinate in the diagram, those were $18.224/5 = 3.644$ and $15230/5 = 3.046$. Finally, every average of each dimension were plotted in diagram.

Tangible as service quality lied in first quadrant followed with reliability in second quadrant, responsiveness in third quadrant and empathy and assurance in fourth quadrant.

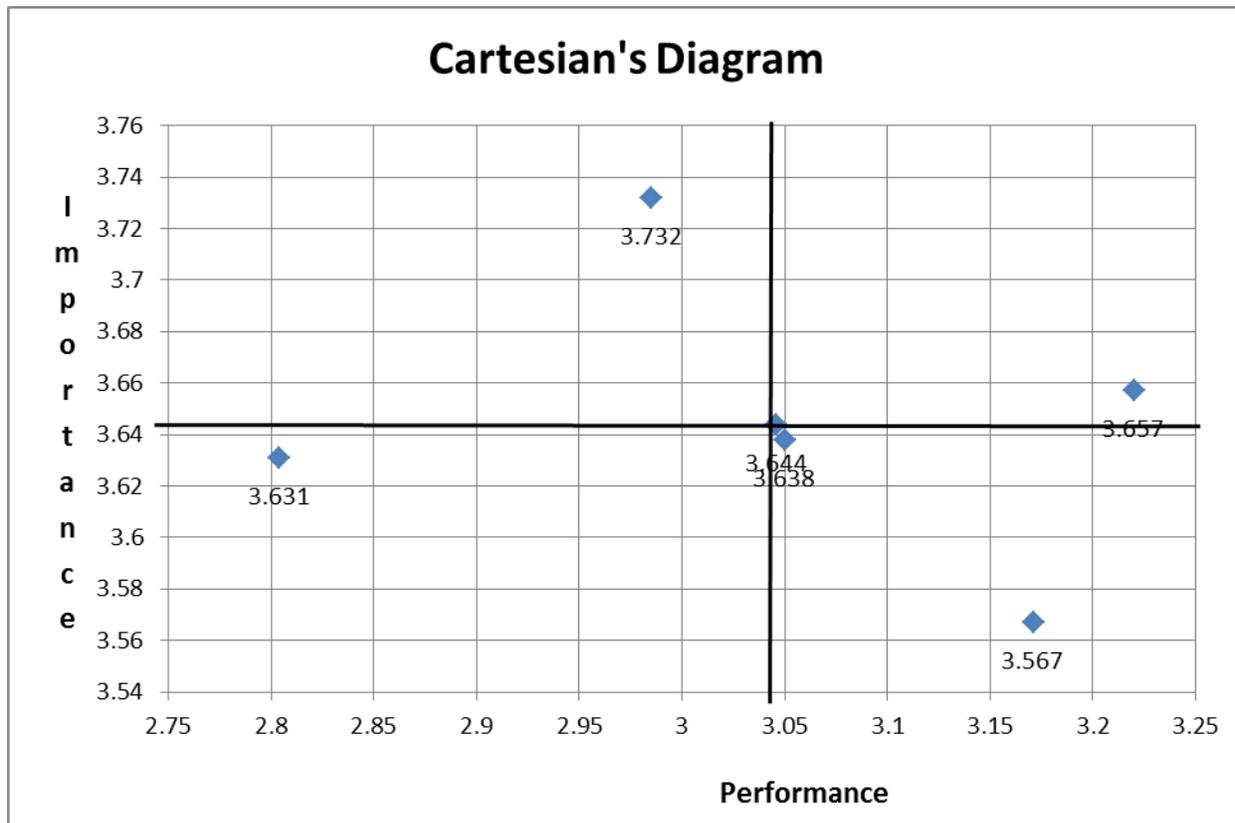


Fig 2. Cartesian's Diagram of Service Quality

As the tangibles lied in the first quadrant, in the participants' opinion the importance services met the health personnel's performance. No actions needed to improve the participants' satisfaction. Tangibles have a high leverage in the neonatal services.

Tangibles certainly has a big role in participants' satisfaction [8]. There is a meaningless shortage of health facilities In Keerom Health Centers and this condition make tangibles lied in first quadrant.

Reliability lies in the second quadrant of the Cartesian's diagram. In order to satisfy the participants, consequently the provider needs to improve the ability and competence of their health personnel. Reliability has the first priority to be improved. Training for the health personnel is a very important way to improve the services and in turn to satisfy the participants. Indeed, the significant improvement of participants' satisfaction needs a very big effort [9].

The third quadrant contained responsiveness. In this case, providers' responsiveness was in low performance and according to participant was also not importance. Although responsiveness in a low priority to improve, because it only has a low leverage, however health provider still has not to disregard.

Excellent services in neonatal care give an added value to the participants. Hence, the participants willing to utilize the services again and again and in other word increase the satisfaction [10].

Empathy and assurance lie in the fourth quadrant. The provider gave a high performance services, but according to participants it

was not important. These two dimensions were in a low leverage to improve the satisfaction.

IV. CONCLUSION

In order to improve the service quality in neonatal care in Keerom Health Centers, the most important thing to do is to improve the reliability dimension. Training for the health personnel is the very important way to improve the services and in turn to satisfy the participants.

Other dimension of service quality, such as responsiveness, empathy and assurance has a low priority to improve.

Tangibles have a high leverage in the neonatal services and have to keep in high performance.

AUTHOR'S CONTRIBUTIONS

All the authors participated significantly in the analysis, drafting of the manuscript and writing the final version of the paper. AZ conceptualized the study, SA, AH and BB contributed towards the statistical analysis.

ACKNOWLEDGEMENTS

Many thanks go to the health staff at all level in Keerom Regency for implementing the survey. We would also like to thank to the pregnant women who participated in the study and population living in the study area.

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