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Predictors of Patient Satisfaction with the Health Care Services Provided in Oromia Regional State Public Hospitals, Ethiopia

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Abstract
Background: Satisfaction is one of the meaningful indicators of patient experience of health care services. Asking patients what they think about the care and treatment they have received is an important step towards improving the quality of care, and to ensuring that local health services are meeting patients' need. The aim of the is to assess factors affecting patient satisfaction among patients at public hospitals of Oromia regional state, Ethiopia. **Methods and Materials**: A facility based cross-sectional study of patient satisfaction conducted in six selected Oromia regional state public hospitals. Data were collected using semi structured questionnaire and focus group discussion from January 10-30, 2016. The data were analyzed using SPSS version 16.0. Both bivariate and multivariate methods of data analysis used to determine the association and predictors. **Results: -** Six hundred eleven (80%) of the respondents were satisfied with health care services delivered in hospitals with mean satisfaction score of 4.13. Female patients were 1.72 times more satisfied than male patients were. Respondents from district hospitals 2.26 times more satisfied compared to respondents from zonal hospital (95%CI: 1.213, 4.21) and respondents from district hospitals 5.6 times more satisfied when compared to respondents from referral hospitals (95%CI: 2.95, 10.64). Patients who had completed their service in less than one hour were 17.8 times more satisfied compared to those completed their service in more seven days.
Conclusion and recommendation:-This study showed that perceived empathy, non-verbal communication, time to complete service, cleanness of rooms and equipment, and level of hospital influenced patient satisfaction. Therefore, health care institutions should work towards improving the communication skill of their professionals and cleanness of rooms and equipments that can improve the satisfaction of patient on care provided in the hospitals.

Introduction

Patient satisfaction is one of the desired outcomes of health care and directly related with utilization of health services. Asking patients what they think about the care and treatment they have received is an important step towards improving the quality of care, and to ensuring that local health services are meeting patients' need. A useful way of doing this is by carrying out surveys of patients who have used the health services [1]. Studies have shown that, satisfied patients are more likely to utilize health services, comply with medical treatment, and continue with the health care providers [2].

Satisfaction is related to more partnership building, more social conversation, courtesy, clear communication and information, respectful treatment, length of consultation, cleanliness of facility, drug availability and waiting time. Measurement of patient satisfaction involves multi-dimensional aspects of patients' opinion on health care, identifying problems in health care, and evaluation of health care. Furthermore, patient satisfaction studies allow service users' voice to be heard and affirm the importance of their experience for improved health care planning. Donabedian has provided a model based structure, process, and outcome for evaluating the quality of health care. Structure refers to the attributes of organizations delivering care and the conditions under which care is provided; process relates to the professional activities associated with providing care; and outcome denotes the effects of care. Outcome includes health status improvements in knowledge, change in behavior, and patient satisfaction with care. Donabedian explained satisfaction/dissatisfaction as patients' judgment on the quality of care in all its aspects. As many satisfaction studies on health care system are conducted in a very specific context and varies from country to country, it is understandable that any standard classification never seems entirely appropriate. In developing countries, however, interest in the issue has been surprisingly low until recently [3].

In Ethiopia, health services are limited and of poor quality and the country has extremely poor health status relative to other low-income countries [4].

According to the World Bank report in Ethiopia, the Government runs most health facilities existing today, and the public network has expanded dramatically over recent years [3].

Furthermore, established evidences depict that even though technical aspect of care has its impact on satisfaction, it is through interpersonal communication that the technology of western world reaches the patients and curing occurs. In addition, it is recognized more than ever that the quality of health care is built on the premise that optimal health care can best be achieved in the context of long term relationship between providers

and patients [5]. Therefore, this study aimed to assess patient satisfaction with health care provided and its influencing factors among patient of six hospitals in Oromia regional state public hospitals.

Despite the increased focus on satisfaction as an outcome measure and a growing body of research, satisfaction has remained difficult to compartmentalize. While numerous satisfaction surveys have been developed the factors individual patients use to deem themselves satisfied remains largely unknown [6]. Consequently, studies measuring predictors of satisfaction have explained only a small portion of satisfaction's variance, nearly always less than 20% [7].

Some studies have focused on health care provider skills and have found a relationship with satisfaction. In particular, specific communication barriers, including lack of warmth and friendliness on the part of the doctor and nurses failure to take into account the patient's concerns and expectations, lack of a clear cut explanation concerning diagnosis and causation of illness, and excessive use of medical jargon have been found to decrease satisfaction[8].

Empathy, which is a core component of consultation, it is often seen as crucial to the effective achievement of patient satisfaction in that it encapsulates sensitivity to both the informational and emotional aspects of communication. Providers who appear fully attentive, avoid distractions, smile, and sit on the same level as the patient all convey an important message of caring, listening, and empathy[9].

It is also clear from the literature that although system aspects such as cost, access, availability of medications and waiting time are related to patient satisfaction, they have always been identified as being less important than the human aspect of medical care. However, system factors asymmetrically guzzle much of the research topics regardless of their little contribution. One studies in Ethiopia showed that 73.3% of the respondents rated the empathy of the health care providers as good, very good or excellent which is lower than those reported in the United Kingdom [8]. Satisfaction actually affects the outcome of medical practices. For these reasons, patient satisfaction assessment has become an integral part of health care organizations strategic processes.

Asking patients what they think about the care and treatment they have received is an important step towards improving the quality of care and to ensure that local health services are meeting patients' needs [9, 10].

The main objective of this study is to assess predictors of patient satisfaction with health services provided at Oromia regional state public hospitals.

Methods and Materials

Study Area and Period

The study area covered six Oromia regional state public hospitals found in Kellem Wollega, west Wollega, East Wollega, Jimma, Bale and west Showa zones. Three levels of hospital namely district hospital, zonal hospital and referral hospital were included. The selected hospitals were Nedjo and Limmu Gannet from district, Dembi Dollo, Ginnir and Ambo from zonal and Nekemte from referral hospital.

Study Design and Period

A cross sectional facility based study conducted from January 10, 2016 to January 30, 2016.

Source Population

All patients those come to the hospitals that fulfill inclusion criteria during data collection period in six selected hospitals. The study unit was a patient who visited the study hospital during the study period who fulfills inclusion criteria.

Sample Size and Sampling Techniques

The sample size for quantitative study was determined using single population proportion formula.

$$n = \frac{(Z_{1-\alpha/2})^2 \, p(1-p)}{d^2}$$

Where:-

Z = Confidence interval (at 95%)

p = Proportion of clients satisfied on hospital service.

The sample size was calculated assuming p, proportion of patients satisfied with service provided to be 62.6% from the data of patient satisfaction in west Shewa zone since 2010. Other assumptions made during the sample size calculation were 5% marginal error (d) and confidence interval of 95%.

$$n = \frac{(1.96)^2 \times 0.626 (1-.626)}{(0.05)^2} = 360$$

This was multiplied by a factor of 2 to correct the design effect of multi staging technique of hospitals in to different levels of strata as district, Zonal and referral and the final sample size was 720 and 10% of non respondent rate was added and the total sample size was 792 patients.

The sample size for FGD was eight patients from general OPD from each of selected hospitals who fulfilled the inclusion criteria.

The study hospitals were selected using simple random sampling method from the three levels of

hospitals (district, Zonal and referral). The study was included one referral hospital, two district hospitals and three zonal hospitals based on proportion of hospitals found in the Oromia regional state. Nedjo and Limmu Gennat hospitals from district, Dembi Dollo, Ginnir and Ambo were from zonal hospitals and Nekemte hospital selected from referral hospitals. About 48 % of study patients selected from zonal hospitals, 27 % from district hospitals and 25% from referral hospital. Systematic sampling technique was used each hospitals obtained. The number of patients selected from each hospital were135,116,130,198,105 and108 from Ambo, Ginnir, Dembi Dollo, Nekemte, Limmu Gannet and Nedjo hospitals respectively.

Data Collection Procedures

The quantitative data were collected using a semi-structured questionnaire prepared by addressing important variables. Six twelve completed data collectors were collected the data. Three diploma graduate supervisors were recruited to give the necessary support to these data collectors. For qualitative data collection, focus group discussion was conducted in each selected hospital with eight patients.

Data Analysis

Data was entered, cleaned and analyzed using SPSS 16 version statistical packages. Frequencies and measures of dispersions were done to describe different variables. Bi-variate and multivariate logistic regression was carried out to control for the effects of confounding variables. The qualitative data obtained from FGD tape record was listened and the narrative was done

Ethical Consideration

Prior to data collection ethical clearance was obtained from Oromia regional health bureau health research sub process case team. Verbal permission was obtained from selected hospitals. Informed consent was taken from each client after explaining the objective of the study.

RESULTS

Socio-Demographic Characteristics of the Respondents

Seven hundred ninety two (792) patients interviewed yielding a response rate of 97%. Four hundred four (53.5%) of the interviewed patients were females. Sixty five percent of the respondents were come from urban area. Three hundred thirty nine (44.1%) of the respondents were married while 417 (54.3%) were not married. About 85(11.1%) of the respondents cannot read and write, 68 (8.9%) of them have attended primary education (grade 1-6), 440(57.3%) of them attended secondary education (grade 7-12) and157 (20.4%) of the respondents have attended diploma and above. Occupationally, 357 (46.5%) of the respondents were students and 162(21.1%) were farmers (table1).

Socio-demographic predictors of patient satisfaction:

Female respondents were 1.5 times satisfied when compared to male patients (95%CI: (1.035, 2.092). Paid respondents 1.6 times satisfied compared to fee waived or exempted respondents (95%CI: (1.040, 2.4). Respondents who cannot read and write 3.7 times more satisfied compared to respondents who had Diploma and above education status (95%CI: 1.830, 7.636), respondents who cannot read and write 2.1 times more satisfied compared to respondents who had secondary (7-12) education status and other educational status had no significant association with patient satisfaction(Table 2).

Institutional aspects and pattern of visit as predictors of patient satisfaction:

Room condition, feeling of privacy during consultation, level of hospitals and time taken to complete their service had statistically significant association with patient satisfaction. Clients who had seen in clean room 6.4 times more satisfied compared to those patients who were not seen in clean room (95%CI: 4.4-9.3). Patients who felt that they did have privacy during consultation and examination were 3.8 times satisfied compared to those who felt there was no sufficient privacy (95%CI: 2.6-5.5). Time taken to the respondents to complete their service also had a significant association on patient satisfaction. Patients who had completed their service in less than two hours were more satisfied than those who had taken more times. Patients who had completed their service in less than one hour were four times satisfied compared to those completed their service in 24-48 hours and patients who had completed their service in less than one hour were 8.3 times satisfied compared to those completed their service in 24 hours to 48 hours. Respondents from district hospitals 18 times more satisfied compared to respondents from referral hospital (95%CI: (8.826,37.623) and respondents from district hospitals 5.8 times more satisfied when compared to respondents from zonal hospitals (95%CI: 2.85, 12.).

Interaction with the Health Care Provider

Six hundred eight four (89 %) of the respondents rated the non-verbal communication by the provider was good. Of the total number of patients included in this study, 502(65.4%) and 522 (68%) reported that they were told their illness and its causes, respectively. Only 477 (62%) of the respondents were given advices on how to prevent the reoccurrence of their current illness and other similar conditions in the future and only 522 (68%) of

the patients were told to return if their symptoms get worse. Five hundred thirty (69%) of the respondents were told enough about their treatment by providers. Seven hundred five (91%) of the respondents agreed on nurses knowledge, courteous and quick response they received. Seven hundred nineteen (94%) of respondents agreed on doctors knowledge, courteous and quick response they received (table 3).

Perceived interaction with the health care provider as predictor of satisfaction

Respondents whose perceived good empathy by the provider had 7.54 times satisfied as compared to the patients who perceived poor empathy (95%CI: 4.51, 12.59). Respondents whose perceived good examination by the provider had 4.2 times satisfied as compared to the patients who perceived poor examination (95%CI: 2.66-6.76). Respondents whose perceived good non verbal communication by the provider had 2.28 times more satisfied as compared to those patients who perceived poor non verbal communication (95%CI: 1.4-3.7). Moreover, Patients who agreed to the technical competency of nurses and doctors 2.6 and 3.2 times more satisfied when compared to those who disagreed to technical competency of nurses and doctors (95%CI: 1.5-4.5 and 1.77-5.84) respectively. It was also found that 393 (51.2%) of the respondents did not tell all of their private issues related to their health condition (table 4).

Predictors of Patient Satisfaction with Health Care Provided

The final model was constructed using conditional logistic regression method. All variables which had shown statistically significant association during the bivariate analysis such as non-verbal communication, perceived empathy, level of hospitals, time taken to complete their service and cleanness of the room and equipments were strong predictors of patient satisfaction. Respondents from district hospitals 2.26 times more satisfied compared to respondents from zonal hospital (95%CI: 1.21, 4.21). Respondents from district hospitals 5.6 times more satisfied when compared to respondents from referral hospitals (95%CI: 2.95, 10.65). Results obtained from qualitative study also had shown that patient satisfaction highly associated with empathy, cleanness of rooms, hospital compounds and medical equipments, time taken to complete their service and timely availability of physician in working places with respect of providers to patients (table 5).

The data from qualitative study showed that dissatisfaction of patients at referral and zonal hospitals were timely unavailability of higher professionals, increased waiting time and lack warmth from the providers' side.

DISCUSSION

The study has provided pertinent information which showed that satisfaction levels of patients improved when compared to previously conducted research on patient satisfaction in Ethiopia. The satisfaction level of respondent on this study showed that 80 % which a bit greater than different studies done in Ethiopia [6]. This finding is in agreement with a survey undertaken in private clinics in Addis Ababa that indicated 64-99% high rate of satisfaction [18]. On the other hand, the study undertaken at Jimma hospital found out that the level of patient satisfaction was low. Furthermore, the World Bank report indicated that 52% of respondents were satisfied [7]. The qualitative data found from FGD also supported that the Patients satisfaction improved due to implementation of different hospital reforms such as BPR.

Patients who attained higher education were less satisfied than patients with lower education level were. It appears that, the expectation of patients with relatively higher educational attainment was high and they were more critical. This result is in line with the study conducted at Jimma hospital, in Trinidad and Tobago, which showed the percentage of satisfied patients decreased with increasing level of educational attainment [17, 19].

Gender had no impact on patients satisfaction from the result obtained in this study. As expressed by Sitiza and Wood, gender does not affect levels of satisfaction [6, 14].

Empathy is crucial to the effective achievement of patient centeredness in that it encapsulates sensitivity to both the informational and emotional aspects of communication [15, 20, and 21]. The present study showed that 90.6% of the respondents rated the empathy of the health care providers as good, which is similar to those reported in the United Kingdom [22, 23].

Health care providers usually feel pressured to see more patients in short time, leading to concerns. The mean consultation duration for the patients was 4.2 minutes whereas the mean expected consultation duration was 14.02 ± 6.73 minutes. Furthermore, health care providers have an ethical duty to teach the patients about their illness and promotion of health in every opportunity and consultation is an ample opportunity to do so [24]. However, 34.7% of the patients not told the name of their illness. Sixty three percent of the respondents reported that the cause of their illness not explained to them. This finding is much lower than findings in other studies carried out elsewhere [16, 25, and 26]. Hence, there were so many missed opportunities to practice health education and promotion activities.

Payment had no significant effect on patient satisfaction in this study. This result is similar to other studies done in India in which there was no significant difference in the levels of satisfaction between types of payment schemes. The main reasons for satisfaction were the availability of required doctors and mitigation from their illness [27].

Non-verbal communication is a delicate form of communication that takes place in the initial three

seconds after meeting someone for the first time and can continue throughout the entire interaction. It has a great impact as that of verbal communication but can be more easily misinterpreted. Thus, it is important for the health care provider to be aware of the non-verbal messages they convey to their patients. In the present study, non-verbal communication significantly influenced patient satisfaction. This finding supported by previous findings in Afar regional state, Ethiopia and Bangladesh [28, 29].

Time taken to complete service had also a significant association with patient satisfaction. Respondent who had taken more than 48 hours to complete their service more likely dissatisfied when compared to others. Patients who had completed their service in less than one hour more likely satisfied than those who had taken more times. Patients who had completed their service in less than one hour 2.12 times satisfied more than those who were completed their service in between 24-48 hours(CI 95%:1.354, 6.946). Patients who had completed their service in less than one hour 4.6 times more satisfied than those who were completed their service greater than 48 hours (CI 95%: 1.974, 11.827). This study is similar to those studies done in Malaysia, India and Tanzania in which waiting time had a significant on patient satisfaction [11, 12, and 13].

The respondent satisfaction on Cleanness of examination and admission room was 72 %. This study is comparable to study done in Ethiopia satisfaction with cleanliness ranged from 72.50% to 90.57% [6].Types of health facility had statistical significance on perceived patient satisfaction from the result obtained in multivariate analysis. This result is similar to other study done in Ethiopia [6]

However, the findings of this study might suffer from response bias because facility based studies produce more positive responses by the patient. This might result in relatively short-lived "halo effect" whereby patients feel more satisfied immediately after their consultation than they do afterwards.

CONCLUSION AND RECOMMENDATION

In general, empathy, non-verbal communication, cleanness of rooms and medical equipments and time taken to complete their service were predictor variables of patient satisfaction in this study. This shows that interpersonal interaction which relies on verbal and non-verbal communication is crucial in improving patient satisfaction and should be given due attention by the health care providers. Furthermore, better demonstration of empathy, information sharing about the patient's illness. The levels of satisfaction of the respondents with health care provided improved. However, there is more dissatisfaction in zonal and referral than primary hospitals.

- The respective hospitals should give attention to sustain current patients' satisfaction level and further improve patient satisfaction level.
- The respective hospitals should give attention to improve communication skills and empathy of providers by providing continuous training.
- The respective hospitals should give attention to improve cleanness of rooms and equipments.
- Oromia regional health bureau should devise strategy in order to improve patient satisfaction at zonal and referral hospitals.
- The respective hospitals should put an effort to improve waiting time of patients.
- **Competing interests**

  I declare that I have no competing interests
- **Authors' contributions**

I Abebe Ajema and Habtamu Oljira Desta are the Principal Investigators, participated in Conceptualized the study, designed the study instrument and conducted the data analysis and wrote the first draft and final draft of the manuscript and involve in critical review of the manuscript.

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List of tables

Table 1: Socio-demographic characteristics of the respondents, May 2016

Sociodemographic Variables	Total	Percent (%)
Age		
15-25	419	54.6
26-35	235	30.6
36-45	62	8
46-55	24	3
56-65	16	2
More than 66 years	12	1.8
Payment		
Pay	642	86.4
Exempted or fee waived	126	16.4
Type of job		
Government worker	94	12.2
Student	357	46.5
House wife	86	11.2
Farmer	162	21.1
Merchant	61	7.9
Level of hospital		
District	204	27
Zonal	371	48
Referral	193	25
Table 1: continued		
Diploma and above	157	21
Time consumed to reach service hospital		
Less than 30 minutes	356	46
30- 60 minutes	268	35
1-2 hours	85	11
Greater than 2 hours	59	8
Greater than 2 hours	59	8

Table 2**:** Socio-demographic determinants of patient satisfaction with health care provided at Oromia regional state public hospitals, May 2016.

Sociodemographic variables	Patient satisfaction			P-value	COR	95%CI
	Satisfied	Dissatisfied	Total			
Sex						
Male	272	85	357	0.032	1.471	(1.04, 2.09)
Female*	339	72	411			
Payment						
Pay	509	119	628	0.031	0.628	(0.41, 0.95)
Not pay*	102	38	140			
Table2 continued						
Type of job						
Govt. worker*	150	27	177			
Student	69	16	85	0.987	1.006	(0.51, 1.97)
House wife	285	62	347	0.932	0.979	(0.60, 1.58)
Farmer	49	43	92	0.000	3.710	(2.10, 6.54)
Merchant	53	7	60	0.212	0.570	(0.24, 1.38)
Others	5	2	7	0.200	2.640	(0.59, 11.66)
Educational status						
Cannot read and write*	91	11	102			
Can read and write	16	2	18	0.967	1.034	(0.21, 5.11)
Grade 1-6	55	9	64	0.529	1.354	(0.53, 3.47)
Grade 7-12	345	88	433	0.028	2.110	(1.08, 4.11)
Diploma and above	104	47	151	0.000	3.739	(1.83, 7.64)

*** = Reference category**

Table 3: Institutional aspects and pattern of visit of patient satisfaction with health care provided at Oromia regional state public hospitals, May 2015.

Institutional variables	Patient satisfaction			P-value	Crude OR	95%CI
	Satisfied	Dissatisfied	Total			
Privacy during consultation						
Yes	372	46	418	0.000	0.266	(0.18, 0.39)
No*	239	111	350			
Cleanness of rooms and equipments						
Good	481	66	547	0.000	0.156	(0.10, 0.23)
Poor*	130	91	221			
Time taken to complete their service						
< 1 hour*	49	4	53			
2-23 hours	188	14	202	0.876	0.912	(0.28, 2.89)
24-48 hours	336	110	446	0.008	4.108	(1.45, 11.64)
Greater than 48 hours	29	11	40	0.000	8.269	(2.67,25.59)
Time taken to reach health institution						
<30 minutes*	180	50	230			
30-60 minutes	248	52	290	0.098	0.76	(0.45, 1.94)
61-120 minutes	145	35	180	0.283	0.98	(0.60, 1.58)
>120 minutes	50	20	68	0.120	1.44	(0.72, 3.78)
Table 3 continued						
Level of hospital						
District*	195	8	203			
Zonal	299	73	372	0.000	5.856	(2.85, 12.01)
Referral	111	76	193	0.000	18.222	(8.82,37.62)

***=reference category**

Table4. Interpersonal interaction variables as predictors of patient satisfaction at Oromia regional state public hospitals, May 2016

Interpersonal and variables	Patient satisfaction			P-value	COR	95%CI
	Satisfied	Dissatisfied	Total			
Provider made you feel at ease						
Good	579	117	696	0.000	0.51	(4.52, 12.59)
Poor*	32	40	72			
Provider examined me thoroughly''						
Good	564	119	683	0.001	0.236	(0.15,0 .38)
Poor*	47	38	85			
Provider's direct eye contact						
Good	554	130	684	.000	0.439	(.27, .71)
Poor*	57	27	84			
Provider told you the name of your illness						
Yes	433	69	502	0.001	0.327	(0.23, 0.47)
No*	178	88	266			
Provider told you to return if it gets worse						
Yes	443	79	522	0.001	0.338	(0.24, 0.48)
No*	161	85	246			
Provider told cause of your illness						
Yes	442	80	522	0.002	0.398	(0.27, 0.56)
No*	169	77	246			
Provider told enough about your treatment						
Yes	447	83	530	0.000	0.411	(0.28, 0.58)
No*	164	74	238			
Provider told you ways of preventing future recurrence						
Yes	396	81	477	0.012	0.640	(0.45, 0.90)
No*	215	76	291			
Nurses knowledge and quick response						
Agree	572	133	705	0.000	0.378	(0.22, 0.65)
Disagree*	39	24	63			
Doctors knowledge and quick response						
Agree	583	136	719	0.000	0.311	(0.17, 0.56)
Disagree*	28	21	49			
Duration of stay with the provider						
Very long*	6	5	11			
Long	55	34	89	0.10	0.74	(0.31, 1.97)
Fair	225	55	280	0 .13	0 .29	(0.10, 0.54)
Short	280	48	328	0.09	0.21	(0.09, 0.58)
Very short	45	15	60	0.38	0.4	(0.24, 0.88)
Involvement of other In decision making						
Yes	325	85	410	0.17	1.03	(0.65, 1.36)
No*	286	72	358			

*References category

Table 6: Predictors of patient satisfaction with heath care services provided at Oromia regional state public hospitals, May 2016.

Explanatory variables	Patient satisfaction			P-value	AOR	95%CI
	Satisfied	Dissatisfied	Total			
Level of hospital						
District*	195	8	203			
Zonal	299	73	372	0.001	2.26	(1.21, 4.21)
Referral	111	76	193	0.000	5.56	(2.95, 10.65)
Provider made you feel at ease						
Good	579	117	696	0.000	0.223	(0.12, 0.41)
Poor*	32	40	72			
Cleanness of Room and equipments						
Good	481	66	547	0.000	0.373	(0.24, 0.57)
Poor *	130	91	221			
Provider eye contact						
Good	554	130	554	0.001	0.579	(0.37, 0.89)
Poor *	57	27	57			
Time taken to complete their service						
< 2 hour*	49	4	53			
2-23 hours	188	14	202	0.18	0.97	(0.43, 2.50)
24-48 hours	334	112	446	0.01	2.12	(1.35, 6.95)
Greater than 48 hours	29	11	40	0.00	4.65	(1.97, 11.83)