

# Medical Care Satisfaction among Software Engineers in Bengaluru, Karnataka, India

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## ABSTRACT

**Background:** Healthcare in India has seen many changes over the years. The objectives of healthcare changed with the requirements of society and the availability of resources and technology, even though the roles of patients and doctors have remained fixed. There is increased dissatisfaction among the public. It is vital to know exactly what our patients expect of us as their health care providers to practice according to the need of the day; in addition to ethically correct medicine. Bengaluru is known as IT capital of India with most of them being software engineers who often are first among the patients to be aware and informed of the diseases suffered by them or beloved ones. Hence, this study was undertaken with an objective of estimating the satisfaction of the medical care received by software engineers working in multinational companies in Bengaluru, Karnataka, India.

**Methodology:** The required number of engineers were selected using the snowballing technique until the sample size was met. The participants were given self-administered questionnaire (PSQ-18) after obtaining the consent. The self-administered questionnaire consisted of demographic profile and 18 questions related to the medical system which were scored from agreeing to disagree strongly. The scoring was done using the scoring method for the PSQ-18 and overall satisfaction with the healthcare found along with subscores. Data were analyzed using SPSS 20 and chi-square was used as a test of significance.

**Results:** Mean age of the study population was found to be 26.4 years  $\pm$  4, with males representing the majority (73.5%) of the study population. Overall satisfaction among engineers was found to be 55.5%. Less satisfaction among participants was found when it came in terms of financial aspect (28.5%) and time spent with doctors (31.5%) followed by accessibility to health services (43%).

**Conclusion:** A comprehensive approach involving all the stakeholders so as to arrive at a way to decrease the financial burden of the diseases as well as to improve time spent with the doctor is required.

**Keywords:** Medical care, Satisfaction, Software engineers

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## BACKGROUND

Healthcare in India has seen many changes over the years. The objectives of healthcare changed with the requirements of society and the availability of resources and technology, even though the roles of patients and doctors have remained fixed.<sup>1,2</sup> There have been many allegations about the medical care being too money-minded and non-patient centric in the recent years. There is increased dissatisfaction among the public. Consumer/patient satisfaction is recognized as an important parameter for assessing the quality of patient care services.<sup>3</sup>

Patient satisfaction has been defined as the degree of congruency between a patient's expectations of ideal care and his/her perception of the real care(s) he/she receives. It is a multidimensional aspect, represents a vital key marker of the quality of healthcare delivery, and this is an internationally accepted factor which needs to be studied repeatedly for the smooth functioning of the healthcare system.<sup>4</sup>

Studies have been conducted to assess the quality of services rendered by hospitals. These studies have been carried out, starting in Primary Health Centres to tertiary care centers, public and private hospitals.<sup>1,3-5</sup> All these services measured the quality of the healthcare received by patients by measuring the satisfaction of the patients to the services received by them. The patient's satisfaction was assessed either in outpatients or inpatients while getting discharged. The questions were based on their experience at that particular hospital regarding their services ranging from registration in the hospital to the discharge. Such studies are helpful in knowing and improving the hospital, the study was carried out in. However, these studies cannot assess the overall satisfaction of the people towards the medical care received by them in the recent past. There are few such studies to assess the overall satisfaction hence the trust towards the healthcare system. Today, the patients are much more aware and informed about their diseases compared to most healthcare givers. It is, therefore, vital to know exactly what our patients expect of us as their healthcare providers in order to practice according to the need of the day; in addition to ethically correct medicine.<sup>2</sup> Bengaluru is known as IT capital of India with most of

them being software engineers who often are first among the patients to be aware and informed of the diseases suffered by them or beloved ones. Hence, this study was undertaken with an objective of estimating the satisfaction of the medical care received by software Engineers working in multinational companies in Bengaluru.

**MATERIALS AND METHODS**

An observational cross-sectional study was carried out from November 2015 to December 2015 in Bengaluru, among selected engineers working in multinational companies. Based on the pilot study the satisfaction regarding medical care was found to be 50%. Considering this with 15% relative precision and 10% non-response rate the minimum sample size is 196 which was rounded off to 200. Engineers who were permanent residents of Bengaluru and working in the multinational company willing to participate were considered for the study

**Methods of Data Collection**

The required number of engineers were selected using the snowballing technique until the sample size was met. The participants were given self-administered questionnaire (PSQ-18)<sup>6</sup> after obtaining the consent. The self-administered questionnaire consisted of demographic profile and 18 questions related to the medical system which were scored from agreeing to disagree strongly. The scoring was done using the scoring method for the PSQ-18 and overall satisfaction with the healthcare found along with subscores

**Data Analysis**

The data collected was compiled in MS Excel sheet and analyzed using SPSS version 20. Qualitative variables were expressed as frequency and percentages. Categorical data was analyzed using chi-square test

**RESULTS**

Mean age of the study population was found to be 26.4 years ± 4, with males representing majority (73.5%) of the study population (Fig. 1) All the participants were found to avail services from private sector. Overall satisfaction among engineers was found to be 55.5% (Fig. 2). Satisfaction in subscores were, technical quality (54.5%), interpersonal manner (49.5%), general satisfaction (48.0%) and communication; (48.0%). However less satisfaction among participants were found when it came in terms of financial aspect (28.5%) and time spent with doctors (31.5%) followed by accessibility to health services (43%) (Fig. 3). Overall satisfaction

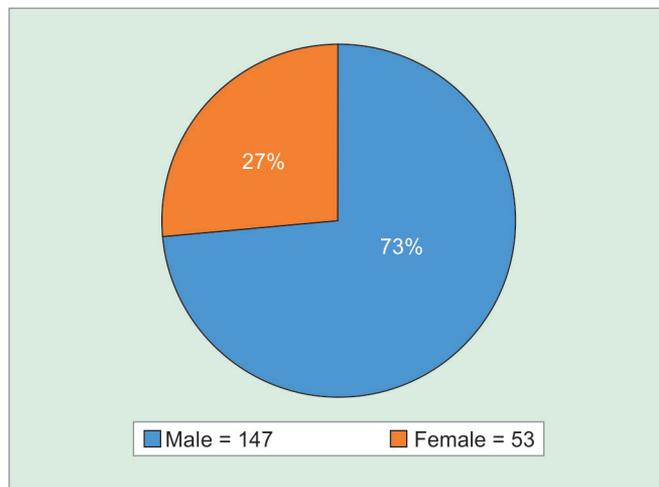


Fig. 1: Participants distribution based on gender (N=200)

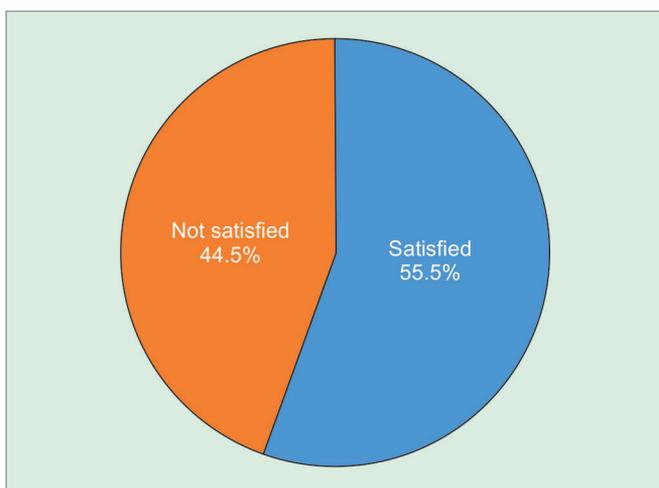


Fig. 2: Satisfaction regarding medical care received by participants (N=200)

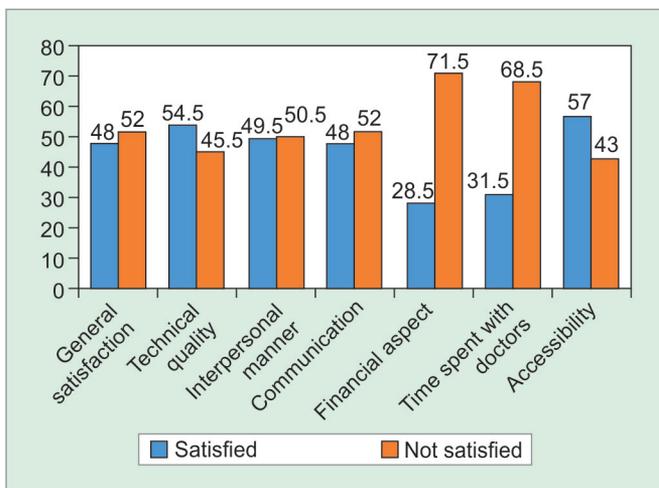


Fig. 3: Satisfaction among participants based on sub scores (%)

regarding medical care was less among males (53%) compared to females (62.3%). The males were less satisfied compared to females in terms of communication, financial aspect, accessibility and time spent with

**Table 1:** Satisfaction among the study participants based on the gender along with the sub score

	Gender	Satisfied (%)	Not satisfied (%)	Total	Chi-square and p-value
Overall	Male	78 (53)	69 (47)	147	1.336, 0.24774
	Female	33 (62.3)	20 (37.7)	53	
<i>Subscores</i>					
General satisfaction	Male	66 (44.9)	81(55.1)	147	2.13
	Female	30 (56.6)	23 (43.4)	53	0.14
Technical quality	Male	79 (53.7)	68 (46.3)	147	0.12
	Female	30 (56.6)	23 (43.4)	53	0.71
Interpersonal manner	Male	73 (49.7)	74(50.3)	147	0.006
	Female	26 (49.1)	27 (50.9)	53	0.93
Communication	Male	66 (44.9)	81 (55.1)	147	2.13
	Female	30 (56.6)	23 (43.4)	53	0.14
Financial aspect	Male	35 (23.8)	112 (76.2)	147	5.98
	Female	22 (41.5)	31 (58.5)	53	0.014 Statistically significant
Time spent with doctor	Male	42 (28.6)	105 (71.4)	147	2.20
	Female	21 (39.6)	32 (60.4)	53	0.13
Accessibility	Male	79 (53.7)	68 (46.3)	147	2.40
	Female	35 (66)	18 (34)	53	0.12

doctors (Table 1). This association between financial aspect and gender was found to be statistically significant ( $p = 0.014$ )

## DISCUSSION

This study was undertaken with an objective of estimating the satisfaction of the medical care received by software engineers working in multinational companies in Bengaluru. Mean age of the study population was found to be 26.4 years  $\pm$  4, with males representing the majority (73.5%) of the study population. This was similar to studies done by Kausar et al. where males were more compared to females.<sup>3</sup> All the participants were found to avail services from the private sector. Holikatti et al.<sup>7</sup> and Ashraf et al.<sup>8</sup> found overall satisfaction of patients to be 57 and 61% respectively similar to the findings in this study (55.5%). However, increased satisfaction was found in the study done by Qadri et al.<sup>4</sup> where the overall satisfaction was found to be 79.3%. Less satisfaction in the subscores among participants was found in terms of financial aspect (28.5%) and time spent with doctors (31.5%) followed by accessibility to health services (43%) similar to study done by Sivalenka,<sup>9</sup> where significant dissatisfaction was observed among financial aspect. Overall satisfaction regarding medical care was less among males (53%) compared to females (62.3%) in contrast to study done by Mohamed et al. where males (84.3%) were more

satisfied compared to females(79.8%) The males were less satisfied compared to females in terms of communication, financial aspect, accessibility and time spent with doctors. This association between the financial aspect and gender was found to be statistically significant ( $p = 0.014$ ); however, no statistical significance was seen in the study conducted by Holikatti et al.<sup>7</sup>

## CONCLUSION

It was observed that most of the software engineers were satisfied with the medical care received, however, less satisfaction was found among the study participants when it came in terms of financial aspect and time spent with doctors. Males were less satisfied regarding financial aspects compared to females and this difference was found to be statistically significant.

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