Improving Health-related Quality, Patient Satisfaction and Cooperation in Health-care Services: An Empirical Research in Pakistan

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ABSTRACT: *Concerns about quality and healthcare have become a critical subject in Pakistan in last two decades. Poor qualities in healthcare services are a result of low grade environmental hygiene. It has been observed that serious and widespread quality problems exist in the field of Medicine in Pakistan. So, healthcare quality improvement is prominent and habitual topic in the nationwide deliberations. In this research paper, both qualitative and quantitative studies were done. The data was gathered through questionnaire that contained multiple choice questions. Results of various correlations, control chart revealed a great deal of existing services provided at health facility providers with patient satisfaction. There we found that patient satisfaction is coherently related to expertise of staff, availability of modern and suitable medical equipment, cost of medical treatment and healthiness of atmosphere. The comparison of health-care services provided in rural and urban areas were performed that exhibited: patient satisfaction is not given significance in rural areas and patients are not facilitated with healthy environment and clean water. Moreover, results showed that well-educated patients cooperate in maintaining healthy environment. Our study confirms direct relation between quality, healthcare, patient satisfaction and their cooperation. It seems reasonable to understand the factors which affect healthcare quality and to improve them to make healthcare services satisfactory.*

Keywords: Health-related Quality, Patient satisfaction, Cooperation, Health-care Services.

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1. Introduction

Quality of service and patient satisfaction always remain very critical issues for health care service providers (Cooperberg, Birkmeyer&Litwin, 2009) and patients' perception of service quality at hospitals are largely overlooked in developing countries. (Andaleeb, 2001).

Despite of importance of quality assurance, in developing countries, very few efforts have been done. In developed countries, quality assurance is used to assess needs and expectations of patients and improve health service facilities. (Brown, Franco,

Rafeh&Hatzell, 1991). Quality of care is considered the standard of health services providers and patient's expectation. (Brown, Franco, Rafeh&Hatzell, 1991)

There are four social key sectors identified in health quality problems: (1) primary health care, (2) primary education, (3) rural water supply and sanitation and (4) population welfare. (Gaffar.Kazi& Salman, 2000).In Pakistan, health is prime responsibility of provincial government but policies are made by federal government. Both private and public health care service providers are available here in Pakistan. (Gaffar.Kazi& Salman, 2000)

Many studies have been done in developed countries to improve health-related quality services to satisfy patients and their behavioral intention. But few studies have been done in developing countries in this perspective.

Our aim, in this research paper, is to explore problems in health–related quality, patient's satisfaction and behavioral intention in developing areas of Pakistan. Because, in developing countries, health facilities are provided in developed areas that are far away from developing areas. So, it is difficult for people at developing areas to get good quality health services at their place.

2. Literature Review

Quality of service provided to patients and behavioral intention are the most important determining factors of patient's satisfaction. (Choi,Cho,Lee,Lee&Kim, 2004). Satisfaction is an emotional state of mind. (Baker, Crompton, 2000). Quality of service and value has impact on behavioral intention of patient. (Cooperberg, Birkmeyer&Litwin, 2009)

Patients are not just bodies; rather they are humans and have feelings, perception and expectations. (Andaleeb, 2001). According to patient's viewpoint, there are two things that patient sacrificed. One is money (that is spent) and other is mental and physical stress that a patient has to face. (Cooperberg, Birkmeyer&Litwin, 2009) All the patients do not have same needs and that is why benefits provided to less needy patients and needier patients are different. (Glazera, McGuirec, Caod&Zaslavsky, 2008). If quality of service is according to patient perception, then it leads to patient satisfaction and behavioral intention of a patient is associated with perceived service quality and patient's satisfaction. (Cooperberg, Birkmeyer&Litwin, 2009). Perceived service qualities at health care provider services have impact on patient's behavior (Andaleeb, 2001) and behavioral intention. (Baker, Crompton, 2000) If patient is not satisfied at health-service provider, then he/she will not like to get treatment from there again and not recommend to anyone else. (Brown, Franco, Rafeh&Hatzell, 1991)

In a health plan, patient satisfaction is considered an important module of it. (Glazera, McGuirec, Caod&Zaslavsky, 2008) There is a perceived value of quality and other is satisfaction by quality, if both are same, then it is ideal situation to have satisfaction through perceived value of quality. (Benton, 1996). Health reports can help in improving the quality of health care by identifying patient's needs and delivering information for taking enticements to improve it. (Glazera, McGuirec, Caod&Zaslavsky, 2008). In developing countries, patient's opinion can be a very good source in developing health care facilities. (Andaleeb, 2001)A quality report of a health care organization is deliberated as a motivator for that organization. (Glazera, McGuirec, Caod&Zaslavsky, 2008). There is a need to include multi-dimensional aspects of health care quality in health care quality policies. (Cooperberg, Birkmeyer&Litwin, 2009) Patient's satisfaction is considered is the outcome of pateint's perception about doctor's role. (Bennett JK,2010)

Many health points related to quality of life like morbidity and mortality are given importance by patients as well as health care providers, but many other different attributes to patient and environmental factors are ignored by both of them. Both of these aspects are difficult to interpret and evaluate. Collecting data for analyze them is also difficult to get. Many researchers have examined these issues with health care providers' database, but it should be considered that health care providers' databases have limitations also. (Cooperberg, Birkmeyer&Litwin, 2009) Quality of life for patients and treatment are related to each other. (Pollack, Purayidathil,Bolge& Williams, 2010)

If quality of service at hospitals in developing countries will not be according to patient's perception, then he/she will be discouraged to use those facilities. (Andaleeb, 2001).The consequences will not be in better position, until service quality improvement was not given importance. It is the only way to get patient's confidence and satisfaction. (Andaleeb, 2001)

Lack of discipline also causes patient's dissatisfaction. (Andaleeb, 2001). Health planners should encourage their employees to improve their relationship with patients to satisfy them. (Gross, 2004).Patient's education has greater impact on patient's

satisfaction and cooperation in maintaining good quality service and cleanliness in environment at health care service providers. (Andaleeb, 2001) Especially women in rural areas have less education that creates problems in cooperation. Educated women play important role in developing health facilities in community. (Thomas, 2009) People want someone to be responsible for their care when they visit the health care facility. (Kajander, 1997). Patients trust other patient's opinion when using a health facility, regardless of quality offered at the health care. It is more of a personal opinion. (Flangan 1997, Robinow 1997). Although trust is very important in health care service providers, but it is distinctive from quality of care because it depends on patient's interaction with service providers that how they seek care for patients. (Ozawa1& Walker, 2011).

Patients' education can also cause dissatisfaction for patients and health care service providers because patient's education is considered a valuable part in communication with service providers. (Hoving, Visser, 2010).

Two main concepts of quality are quality assurance and quality improvement. Quality assurance is about knowing whether quality exists, motivated by the fear of failing and its outcomes. Other is the quality improvement dealing with including improvement and ensuring quality in processes rather finished product. Quality improvement has a more positive thinking as motivator. (Harris, 1997).Health systems performance should be monitored. (Gross, 2004). There is a need of introducing a strong managerial alignment in the hospitals to ensure good quality services and patient satisfaction (Andaleeb, 2001) because it is only under management's control. (Baker, Crompton, 2000) It can be done by improving human resource and process management to ensure patient's satisfaction. (Pollack, Purayidathil, Bolge& Williams, 2010) By improving quality and control, desirable results can be achieved. (Benton, 1996) Total quality of management and good governance should be an essential part of health management system to implement successful health zones. (Gaffar.Kazi& Salman, 2000) Quality assurance should be used to improve health related quality. (Brown, Franco, Rafeh&Hatzell, 1991).

Simply measuring quality is no way equivalent to improving it. The task is to bring "what we know" closer to "what we are actually doing". (Clancy, 1997). The perceptions about the use of health care, regardless of actual health of patients, play an important role in patient's intent to use health care facilities. (Connelly, Philberick, Smith, Kaiser and Antoinette, 1989). The doctor's view of quality greatly differs from that of customer. But the hit lies in considering both perspectives as "two sides of same coin". (Clancy, 1997).

Organized programs for health care can lead to better planning of health care visits and to provide better facilities at the health centers. (Mott, 1986). The intent to use health care facility is driven by factors like age, gender, family income etc, and the frequency of use of these resources vary from country to country.(Rajmil, Alonso, Berra, Sieberer, Gosch, Simeoni, Auquier, 2006). According to WHO, environmental hazards like lack of access to clean water, air pollution and lack of simulation and hygiene add to disease burden of a country.(Nweke and Sanders, 2009). The introduction of new technology have raised people's expectations about health care facility and quality.(Harris 1997). Government plays an important role in improving health care quality by funding the implementation of quality improvement and assurance strategies.(Clancy,1997). There is a need to design, maintain and operate health facilities to sustenance health, safety and productivity. The health issues caused by indoor environment have more important role in healthy and safety environment. (Hodgson, Brodt, Henderson, Loftness, McCrone, Roselle, Rosenfeld, Woods & Wright, 2000)

Based on literature review, following research hypotheses have been developed:

***Hypothesis 1*:** Service quality at health care service providers is associated with patient's satisfaction.

***Hypothesis 2*:** Cost of medical treatment is associated with patient satisfaction.

***Hypothesis 3*:** Patient's education is associated with patient's cooperation.

***Hypothesis 4*:** Cleanliness at hospitals has greater impact on patient's satisfaction.

***Hypothesis 5*:** Healthy environment at hospital has greater impact on patient's satisfaction.

***Hypothesis 6*:** Environmental cleanliness is keenly observed by providing appropriate sewage system and means of disposal waste.

3. Methodology

To measure all responses, Likert scale was used that vary for each item from 1-3 and 1-5, where 1 – very dissatisfied and 6 is very satisfied.

3.1 Measurement

Our aim in this research paper is to examine aspects of service quality that is provided at health care centers to patients. Along with this, we wanted to observe patient's cooperation in acquiring good quality service by health care service providers and maintaining healthy environment with their cooperation. For finding those features, facilities provided to patients at health care service centers in developing areas of Pakistan were identified and patient's collaboration and satisfaction were measured.

Based on literature review, an instrument was selected that was used by"Republic of Yemen, Ministry of Public Health and Population, Planning and Development Sector, General Administration for Statistics and Information Systems" with some modifications according to our culture and requirement. This instrument contained 2 portions and total 40 items.

In instrument, there were two portions. One was required to fill by health provider staff and other by current or ex-patient of concerned hospital. The part of instrument that was filled by staff member contained following substances:

- The identification data of health service providers was gathered.
- The detail of respondents (staff members) like occupation, gender, education, age and income were identified.
- The general data of health facility including infrastructure and waste and sewage systems were observed.
- Patient's cooperation in maintaining cleanliness and healthy environment was observed.

In further part of instrument that was filled by patients contained following substances:

- The personal information of respondent patients, like age, gender, education, monthly income was identified.
- Patient visit per year was documented along with type of insurance he/she had.
- Patient's level of satisfaction related to health facilities was measured, like skills of staff, treatment, cost and cleanliness of environment were observed.

3.2 Data collection

For this research, data was collected from 6 hospitals and 7 health clinics and health units located in 5 developing cities of Pakistan. For the purpose of collection of data, the questionnaires were distributed to health service providers and patients. The respondents were requested to fill this survey questionnaire. Some patients were unable to fill data him/herself. To solve that matter, we asked questions from them and fill their responses by ourselves.

The total number of questionnaires distributed was 151 and we received total 113 of questionnaires back from respondents. 109 questionnaires were selected for analysis. The remaining questionnaires were eliminated from analysis because of containing inappropriate and incomplete information.

3.3 Data Analysis

The collected data (from questionnaires) was fed into SPSS 17.0 version for analysis. The 4 correlation tables were formulated with the help of collected data to examine the relationship among different features of service quality at health care centers in urban and rural areas and patients cooperation in maintaining health environment. Besides this, different pie and charts were drawn to observe the relationship of cleanliness observed in health providers and availability of clean water. Moreover patient satisfaction level with cost of medical treatment was measured. The control charts were also framed to observe the intensity of patient satisfaction with observation of cleanliness and healthy environment.

4. Results

4.1 Case Process Summary

The valid responses are 109 and there is no missing value in them because the missing values cases were omitted from data analysis. Data was gathered from two types of areas to compare health facilities provided in both of them. One was rural and other was urban. The percentage of data collected from rural is 38.5 and urban is 61.5. The gender of respondents at health facility center is 60.6 percent male and 39.4 percent female. The age of respondents vary, most of the data was collected from person range from 20-40 years. Similarly education level also diverges and most of the responses were collected from respondents with doctorate degree. Moreover all the respondents at health facility centers were employed with 73 percent earning more than Rs. 10,000 salary. The data was collected from different types of health providers and most of responses were gathered from hospitals mostly working under government. The data was also gathered from current or ex-patients of health centers from where data was already collected for this study. 64.2 percent male patients responded, while percent of female respondents were 35.8. Moreover, age and education level of respondents patients vary according to the areas. 57.8 percent respondent patients were unemployed and 51.4 percent patients were earning less or equal Rs.10,000. The type of health facility is hospitals, health units and clinics.

4.2 Correlation Tables

	Patient Satisfaction Staff with Skill of at Health Facility	Availability of Equipment for Diagnosis and Patient Treatment at Health Facility	Availability of Modern Operating Facilities for Patients at Health Facility	Cost to Patient by Health Facility is Appropriate	Kind of Medical Insurance Coverage Patient have	Monthly Income of Patient
Patient Satisfaction with Skill of Staff at Health Facility	1					
Availability of Equipment for Diagnosis and Patient Treatment at Health Facility	0.28**	1				
Availability of Modern Operating Facilities for Patients at Health Facility	0.31**	0.86**	1			
Cost to Patient by Health Facility is Appropriate	0.07	-0.06	-0.04	1		
Kind of Medical Insurance Coverage Patient have	0.17	0.15	0.12	0.21*	1	
Monthly Income of Patient	0.05	0.19*	0.19*	0.05	0.22*	1

Correlation Table. 1

**.Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The five correlation tables were formulated. In first table, we observe that the patient satisfaction is affected with availability of equipment for diagnosis and treatment at health facility that has very significant relation with modern operating facilities available at health centers. Moreover, patient satisfaction with skill of staff at health facility is directly related to availability of modern operating facilitated and equipment for diagnosis and treatment.

In second table, we perceive that the cooperation of patients in maintaining health environment at health facility centers is directly linked with type of area that is either urban or rural. In urban areas, more percentage of educated people exist who cooperate to maintain healthy environment as compared to rural areas where people has less education and do not have concept of benefits of health environment. Moreover, one more important thing can be seen that type of area is also linked with importance of patient satisfaction at health centers. It means that if, for example, patient satisfaction will be given weightage, and it can produce better results.

	Type of Area	Patients are Cooperative in Maintaining Healthy Environment	Patient Satisfaction Ratings Changed at Health Facility in the Past Year	Importance of Patient Satisfaction at Health Facility
Type of Area	1			
Patients are Cooperative in Maintaining Healthy Environment	0.5**	1		
Patient Satisfaction Ratings Changed at Health Facility in the Past Year	0.17	0.02	1	
Importance of Patient Satisfaction at Health Facility	0.47**	0.24*	0.18	1

Correlation Table. 2

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The third correlation table depicts that environmental cleanliness is keenly observed with availability of means of waste disposal at health facility, appropriate means of sewage systems and garbage disposal. Moreover, if importance will be given to environmental cleanliness, then environment cleanliness will be keenly observed. So, to maintain a healthy environment, there is need of availability of waste disposal, garbage disposal and appropriate means of sewage system.

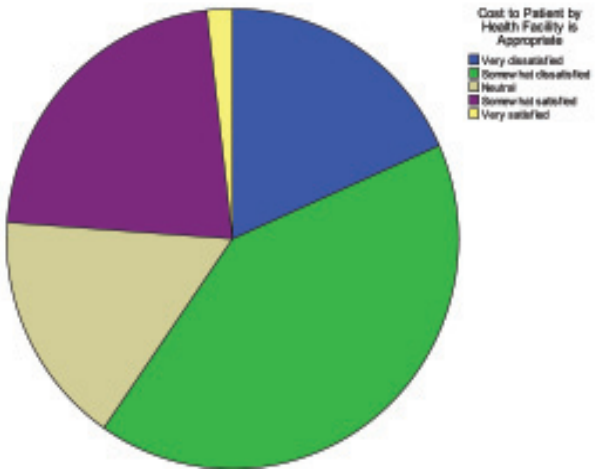
4.3 Graph

In pie-chart, we observe the patient satisfaction associated with cost of treatment. The percentage of very satisfied patients is very low, while percentage of somewhat satisfied and very dissatisfied is nearly equal. And percentage of somewhat dissatisfied is very high. It shows that the significant number of patients is not satisfied with the cost of medical treatment.

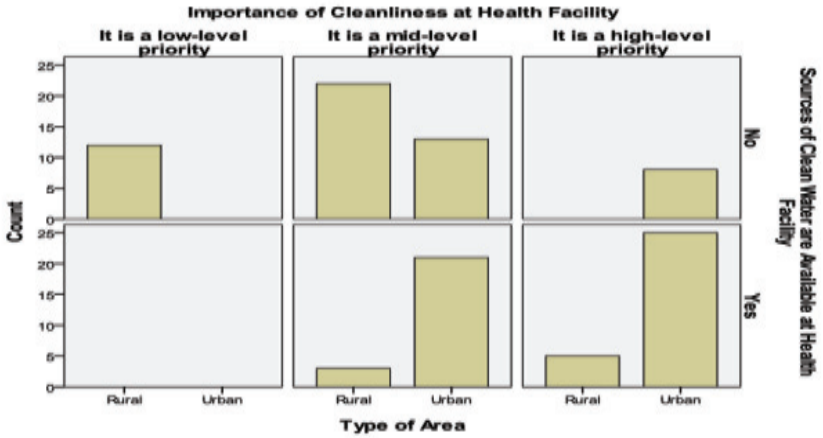
	Environment Cleanliness is Keenly Observed	Availability of Means of Waste Disposal at the Health Facility	Means of Sewage System is Used at the Health Facility	Garbage is disposed of at Health Facility	Importance of Cleanliness at Health Facility
Environment Cleanliness is Keenly Observed	1				
Availability of Means of Waste Disposal at the Health Facility	.612**	1			
Means of Sewage System is Used at the Health Facility	-.503**	-.623**	1		
Garbage is disposed of at Health Facility	-.519**	-.598**	.523**	1	
Importance of Cleanliness at Health Facility	.496**	.511**	-.484**	-.540**	1

Correlation Table.3

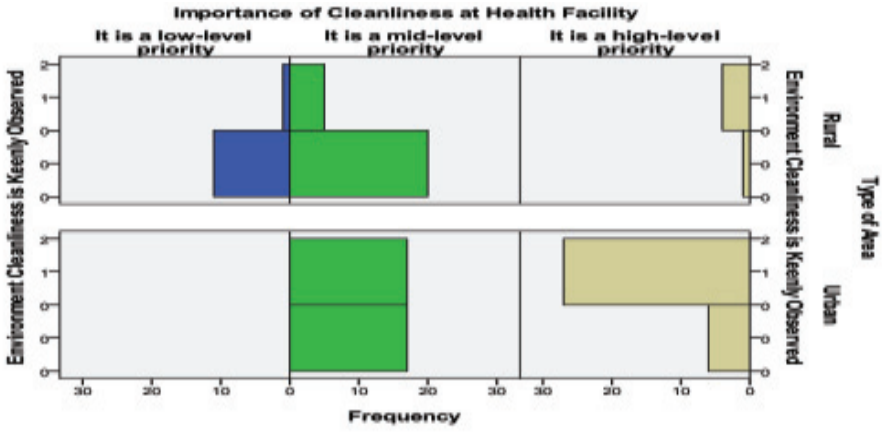
**. Correlation is significant at the 0.01 level (2-tailed).

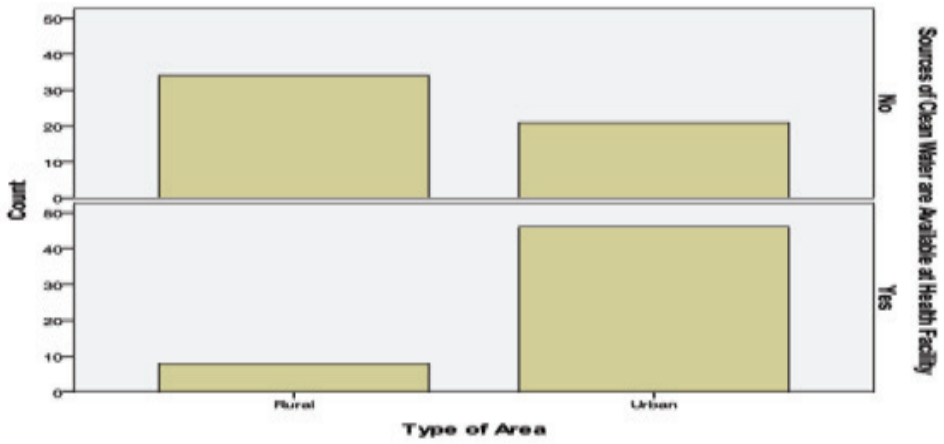


The bar-chart 1 shows that priority allocated to importance of cleanliness in environment is closely linked with type of area. In rural area, importance of environmental cleanliness is given low priority as compared to urban areas where environmental cleanliness is given more priority and keenly observed.



The second and third bar-chart, following the same trend, showed that in rural areas, importance of cleanliness at health facility is not given appropriate priority as compared to urban areas. Moreover sources of clean water are readily available in urban areas while in rural areas, sources of clean water are not much available.





5. Discussion and Implications

The results have following main outcomes.

• The patient satisfaction is directly linked to performance of staff in health centers and availability of modern medical treatment equipment. This verifies our hypothesis 1.

• The patient cooperation in maintaining healthy environment is related to area, either urban or rural. In urban areas, patients are more cooperative as compared to rural areas.

• The patients obtained less or no education are not much cooperative in maintaining healthy environment. This demonstrates our hypothesis 3.

• The satisfaction level of well-educated patients depends on their contentment with not only performance of staff but also observation and cooperation in maintaining healthy environment with cleanliness. This verifies our hypothesis 4 and 5.

• The patient satisfaction is given more importance in urban areas as compared to rural areas.

• The cleanliness of environment can be followed with the provision of clean water to people and in urban areas, provision of clean water is given importance while in rural areas, it is ignored.

• The patient satisfaction has direct relation with budget of treatment and most of the patients are not satisfied with the cost of medical treatment. This ascertains our hypothesis 2.

• The priority to facilitate patients with healthy environment and clean water is given more in urban areas as compared in rural areas. In rural areas, frequency to provide clean water sources is very less.

• The environmental cleanliness is keenly observed with availability of appropriate waste disposal, means of sewage of system and garbage disposal. This proves our hypothesis 6.

• The importance to patient satisfaction is not given up to required and significant level.

• The healthiness of atmosphere is observed more in health clinics as compared to hospitals and small healthy units.

6. Conclusion

This study scrutinized the aspects of health-related quality in hospitals that influence the patient satisfaction and their behavioral intention if health-care services. The outcomes of this research conclude to provide quality service in health center is the combination of different elements which are intricately linked with each other. The findings of this study suggested that impact of service quality affects the patient satisfaction and it is an undeniable fact. Moreover, contentment of patients depend not only skills of staff, but also on availability of modern and appropriate medical equipment, cost of treatment and healthiness of environment. Furthermore, it has been concluded that in rural areas, patient satisfaction is not awarded considerable importance and healthiness of environment is not observed. But in urban areas and especially in health clinics, healthiness of atmosphere is observed to substantial extent. Additionally, it has been found that in maintaining environmental cleanliness, well-educated patients cooperate in a considerable way as compared to less-educated patient. So, there is a need to improve quality of services provided to patients as health centers.

7. Limitations of Study

There are some limitations of this study. For this study, research survey was conducted in health center of 5 developing cities of Pakistan, but some other cities and health centers are not covered. Besides this, empirical findings such as mentioned in current study can be more concrete provided a periodic data is available for research. Moreover, it was not possible to mark all patients and hospital staff, the future trends of any health outcome could not be predicted. Since, there is lack of registered data in many health centers, so the generalization of results can be warranted.

8. Future Work

A rigorous awareness campaign is needed to improve quality of health services for patients as well as for health services providers especially in rural areas of Pakistan. Further work should be carried out to analyze the environmental hygiene factors

affecting patient satisfaction. Andean effort of psychological well-being of local people should also be concentrated in order to observe their inclination to put communal effort for the development of hygiene conditions.

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