The purpose of this study is to determine the level of customer (i.e., patient) satisfaction in the ultrasound suite as regards to the staff at reception, staff in the ultrasound suite and the radiologist attending them in the ultrasound room.

Materials and Methods:
We conducted a cross-sectional survey in the Department of Radiology, Aga Khan University Hospital, Karachi from July 01, 2009 to July 31, 2009. The information was collected through a designed questionnaire by a third-party volunteer after informed consent. The questionnaire initially assessed service satisfaction at the reception, in the ultrasound suite and the radiologist attending them in the room. The indicator for quality of service given included: promptness, attention, caring attitude, clarity of instructions given, and self-introduction by the doctor and the staff attending them. Results: Our results indicate that areas of service for staff at reception, the overall rating was 76.5% as good and very good, only 21.5% rated service as just ok or poor, in area of staff in ultrasound, 87% rated service as good and very good, 11% rated as just of or poor. In area of Radiologists in ultrasound suite, 84% rated service as good and very good and 15% rated as just ok or poor. On average customer response was 98.5% and 1.5% did not respond.

Conclusion: Based on our survey it was observed that customer showed overall satisfaction but in general we identify few concerns through which we could further improve our standards of service, with specific focus on our first point of contact that is at reception.

Introduction
Radiologic services are essential to the care of patients and as a service provider one needs to understand the quality and delivery of service. This includes knowledge of customer service, customer satisfaction, and all its related issues as well as quality assurance and improvement strategies. Such strategies can help to improve performance and increase overall customer satisfaction.

Five fundamental principles given by Anderson and Zemke set a baseline for radiology practice. Namely: reliability, responsiveness, assurance, empathy and tangibles.

In radiology, in particular, the term “customer” refers not only to patients but also to referring physicians and employees. Regular surveillance of their satisfaction promotes understanding of customer perceptions and helps to identify problems and to evaluate the service provided by a radiology department. To improve the service quality and inculcate its marketing, it is imperative to have a mission statement for the department and every staff and radiologist should abide by it.

Quality management requires a more holistic approach that focuses on continual improvement of the processes associated with providing goods or services that meet or exceed customer expectations. In this context, evaluation of the quality of the health product as perceived by the customers is crucial.

Affability, availability and ability of a service provider promote growth, retention and service. The purpose of this study is to determine the level of customer (i.e., patient) satisfaction in the ultrasound suite as regards to the staff at reception, staff in ultrasound suite and the radiologist attending them in ultrasound room.
The rationale behind this survey is to identify the loop holes in this integrated system and overcome them in a step wise fashion. No study has been conducted or published in local journal to this date.

**Materials & Methods**

It is a cross sectional survey conducted in department of radiology, Aga Khan University hospital Karachi from July 01, 2009 to July 31, 2009. The information was collected through a designed questionnaire by a third party volunteer after informed consent. The questionnaire initially assessed service satisfaction at the reception, in the ultrasound suite and the radiologist attending them in the room. The indicator for quality of service given included, promptness, attention, caring attitude, clarity of instructions given and self introduction by the staff and doctor attending them.

The results were analysed in terms of proportions and percentages and bar charts were acquired.

**Results**

Our results indicate that areas of service for staff at reception, the overall rating was 76.5% as good and very good, only 21.5% rated service as just ok or poor, in area of staff in ultrasound, 87% rated service as good and very good, 11% rated as just of or poor. In area of Radiologists in ultrasound suite, 84% rated service as good and very good and 15% rated as just ok or poor. On average customer response was 98.5% and 1.5% did not responded.

In the area of ‘staff at reception’, 38.5% customers rated very good, 38% rated good, 17.25% rated just okay, 4% rated service as poor and only 0.25% rated it very poor, out of 100 customers involved in survey, 98% responded to this section.

The above results clearly identifies that service standard are rated low by customers for staff at reception, where in area of helpful and friendly, 14% rated service as just ok and 4% rated in poor. In category of promptness in service 19% rated as just ok and 4% rated poor, for areas of giving clear instruction and attentive when serving rating was 20% and 16% respectively and
rated 2% and 6% as poor service respectively for clear instruction and attentive when serving. We also learned that both radiologist and staff need to improve the first moment of interaction by introducing themselves, and whereas staff needs more improvement than the faculty.

Discussion

Service quality can be defined as service that meets or exceeds the needs and expectations of a customer, making the customer happy. In health care setting, quality of service delivery can be defined as the ability of a health organization to constantly and consistently give their customers what they want and need. Communication has been determined as one of the weakest links in areas of customer relationships, there has always been an emphasis and focus on strong interpersonal communication. Customers mostly relate satisfaction with the interpersonal skills of their medical practitioner rather than testing Patients satisfaction assessment is an important factor for providing quality service as utilized for mammography by Doyle. Good staff-patient interaction and proper organizational behavior could improve satisfaction ratings. This can be attributed to the fact that the patient is already going through some level of stress, even if it is of minimal level, since he is in a hospital environment. And such environments are not considered very positive or attractive for patients. Therefore, patients seek to find as much comfort as possible in the way they are being treated by the staff as well as the faculty of the hospital. Moreover, it is imperative that the staff who welcomes them in the premises of the hospital be welcoming and makes it easier for the patient to understand what exactly has to be done. Such attributes should be sustainable with respect to workforce, facilities and equipment.

Moreover, the doctor performing the ultrasound needs to understand the emotions a patient goes through and make it a pleasant visit for the patient. Primacy of patient welfare is one of the fundamental principles according to a Charter by Medical Professionalism. Firstly, the facility needs to be prompt in serving the patient. Secondly, it is important that the staff or radiologist starts this meeting with introducing him/herself, as this serves to break the ice between the patient and doctor, developing a comfort level between them, which allows the patient to clearly share the symptoms. This helps the doctor to diagnose the issue well. Furthermore, the doctor has to show genuine care and concern when dealing with the patient. For the patient, the radiologist is the one who will diagnose his problem. Lack of attention from the doctor will lead to higher levels of stress for the patient. Lastly, the doctor with his expertise and warmth needs to ensure that the patient develops a sense of confidence in them, since it is the trust in the doctor which will lead to high customer satisfaction in a healthcare setting.

Staff at Reception and Ultrasound suite

The importance of staff at reception and ultrasound suite cannot be ignored, since they are the first point of contact that the patient makes with the hospital. They need to be helpful and friendly, since for the patient the hospital is a new place, where they have to find their way to the right doctor. The layout of a hospital, in general, is huge and confusing, dividing the place into sections which the patient might not understand. Thus, it is the reception staff which plays in a vital role in guiding the patient to reach the right doctor. The staff at ultrasound suite then does the mechanical tasks, and needs to give correct, clear and easy instructions, which a layman can understand. Moreover, a patient is always full of questions and concerns. The staff at the ultrasound suite should be equipped to answer them and satisfy their queries. In our study the overall rating of service by staff at reception was 76.5% as good and very good, only 21.5% rated service as just ok or poor. Results clearly indicate that there is still quarter a room for improvement and continuous effort towards excellence should never cease at any point in time. Satisfactory results were achieved in area of staff in ultrasound, with overall rating of 87% as good and very good and 11% rated as just ok or poor. This seems to have evolved with time. Recalling view’s of Cheryl Forchuk: If the staff/nurse hardly listens to the patient, the patient is highly likely to distance himself, feeling uncomfortable and not being able to open up easily. The patient is less likely to discuss his problems and whatever he is facing, making goal of therapeutic relationship weak. This is a bad start to any such relationship, since open communication is key to a highly satisfied consumer. Therefore, staff/nurse should aim to create an
environment where the patient is able to discuss his deepest fears, issues, problems and situations – making service delivery easy and enabling high consumer satisfaction.\textsuperscript{16}

\textbf{Radiologist in Ultrasound suite}

In group of Radiologists in ultrasound suite, the results were comparable and satisfactory with those of staff in ultrasound suite. 84\% rated service as good and very good and 15\% rated as just ok or poor.

The field of radiology requires the use of high quality, state of the art technical medical instruments, which are expensive and make diagnosis fairly accurate and easier. But when seen from the point of view of consumer satisfaction i.e. the patient’s satisfaction, these machines do not impress, since patients attribute direct interpersonal interactions with the doctor as being more important than the indirect way machines deal with them. Even though most of the patient’s fees can be linked back to the use of the expensive machines used to diagnose them, the patients do not attribute satisfaction to the use of these machines. Rather, it is a resultant of the satisfaction they get when a human doctor or a radiologist shows genuine concern for their illness and treats them with care. Without the ‘testing’ part, radiology will not exist, but patients do not see the usage of machines as something which will gain their trust. Only a direct interaction with the doctor or radiologist will make them confident about their healthcare services at the hospital. Thus, it falls as a responsibility on all radiologists to understand this notion regarding the field that they are part of and built it within themselves to get more responsive to patients, and treat them with empathy.\textsuperscript{17}

Only then, the radiology discipline will ensure high customer satisfaction, despite the lesser direct interaction with the radiologist.\textsuperscript{18}

Gunderman believes that the primary loyalty of the radiologist must be to the health of the patient. When it comes to the relationship between a patient and a doctor, it is essential for the doctor to have a human touch to his professional medicinal skills, because the patient has a certain set of expectations from the doctor. Though the importance of the doctor being great at sound medical practices cannot be undermined, it is even more significant to have an aspect of humanism during their dealings with the patient.\textsuperscript{19}

Harold Jacobson also expressed similar view for radiology practice; keeping sense of appropriate concern for individual patient. Radiologists, as part of belonging to the discipline of radiology have less of a direct interaction with the patient. Rather, it is the ultrasound machines and various other medical devices that they have to use to diagnose the patient. This continuous practice ultimately results in the radiologists getting distant from any sort of human communication and sensitivity to patient satisfaction. They are more tilted towards reading what the mammography says or what the results convey. Such detached attitude towards the patient can lead them to feel neglected, leading to less customer satisfaction and removal of trust from the radiologist as well as the healthcare facility that they belong to. Therefore, it is essential for the radiologists to commit themselves to patient satisfaction and gear themselves up to show concern for the patient, allowing an open bridge of communication between the two, which will result in high customer satisfaction.\textsuperscript{20}

One limitation of our study was lack of assessment with regards to patients’ safety. As one goes through such latest materials and implies on service-related principles, it becomes clear that technical skills alone in radiology are not sufficient. Dedication to service and to patients is imperative for future success in radiology.

\textbf{Conclusion}

Periodical assessment of quality service and measurement of customer satisfaction level can be easily incorporated using written questionnaire as a tool. The results hence acquired should be analyzed and used for improvement by the practicing radiologist and staff with ample background knowledge.

Based on our survey it was observed that customer showed overall satisfaction but in general we identify few concerns through which we could further improve our standards of service, with specific focus on our first point of contact that is at reception.

\textbf{References}


