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Research Article

**A CROSS-SECTIONAL RESEARCH TO ASSESS THE SITA  
FAST PLANS THROUGH CHART ANALYZER AMONG  
GLAUCOMA PATIENTS WITH RESPECT TO VARIOUS  
VARIABLES****<sup>1</sup>Dr Maryam Nawaz, <sup>2</sup>Hafiz Natiq Bilal, <sup>2</sup>Imran Latif**  
<sup>1</sup>Sir Ganga Ram Hospital Lahore, <sup>2</sup>Allied Hospital Faisalabad**Abstract:**

**Objective:** To contrast, the worldwide catalogue gets by Swedish Interactive Threshold Algorithm (SITA)- a typical plan by these get by a SITA-Fast plan by Humphrey chart field Analyzer, in patients of glaucoma.

**Methodology:** A cross-sectional research was conducted at Services Hospital, Lahore from February to November 2017. SITA typical or SITA quick illustration field psychoanalysis of one hundred eighty-four patients was approved exposed on Humphrey Visual Field Analyzer (HFA-II) by colourless on colourless border with 30 – 2 agenda on successive patients that vigorous the insertion standard. The rate of prototype typical divergence denotes divergence or time in use to total the assessment were renowned. A p-value of <0.06 remained careful important.

**Result:** Average Deviation remained designed through HFA-II, practising SITA Normal algorithm remained (-15.04 ± 7.32) dB, Average Deviation designed through SITA Fast algorithm stayed (-14.9 ± 7.3) dB, having not any substantial alteration among 2, p>0.06. Average PSD by way of intended b HFA-II, practising SITA Average procedure stayed (8.8 ± 5.5 dB), PSD practising SITA Fast procedure remained (8.6 ± 5.3) dB, having not any substantial variance among those, p≥0.06. This acquired (7.35 ± 3.2) minutes to comprehend inspection by Fast approach in addition (10.4 ± 3.7) minutes by Normal Policy. Outcomes remained substantial.

**Conclusion:** SITA quick policies take considerably fewer times to whole an assessment with the similar consistency as SITA normal approach.

**Keyword:** SITA Quick, SITA Typical, Glaucoma.

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**INTRODUCTION:**

In the world glaucoma is the 2<sup>nd</sup> largest problem which caused the sightlessness or 3<sup>rd</sup> commonest nearby. 7.2 percent of the entire cases of sightlessness in our country is recognized to glaucoma. The investigation of glaucoma is not very simple or takes a multiple step to reach the numerous issues approach to investigate and elevate the intra visual pressure (IVP) beside should not sign the investigation of glaucoma [1]. It's caused the problem in retinal ganglion cells (RGC). which further lead to the exact optic disc or visual field alteration, analyzed by the perimeter, which would be complete among by kinetic and static technique. Appraisals of the honesty of the visual field by the border is a significant analytic examination not simply for organization glaucoma but also for analyzing or scrutinize the sequence of a numerous extra eye infection. Visual field injure is the main catalogue of the user contact of glaucoma. Although current progress in optic nerve or retinal nerve thread coating assessment, colourless brightness perimeters residue the mainly dependable instrument to decide important useful destruction [2]. The degree of difference brightness compassion (D.L sympathy) is calculated in the dissimilar position of the retina in classify to notice divergence from the usual eye. Willpower of D.L compassion with the normal threshold example 30 – 2, the policy may get the spectator as extensive as 12 – 18 minute per eye, depending on the figure of the inspection site, quantity of pathology or patient's health. Threshold analysis is severe on the patients, longer period of the analysis guide to exhaustion consequential in the mistake on a component of the patients, thus the description of analysis variable especially near the finish of the conference and further so if it's the next conference. In the significance of raising the patient relieve, as well as decreasing tiredness consequence, earlier threshold strategy has been developed to approximate the compassion of the visual field in appreciably less time than conservative staircase method [3].

To conquer these troubles quicker threshold strategy has been developed. The unproven Swedish Interactive Threshold Algorithm (SITA) Threshold strategy presented in the Humphrey Field Analyzer model is a lot quicker than the elder strategy they put back. SITA strategy is accessible in a mutually typical and quick form, with SITA-Standard attractive 6-8 min or SITA-Fast attractive 4-6 min usually. Where together have like discovery stage for glaucoma and the final have an earlier reaction time. Arties and generation assess possessions of parametric threshold approximation for mutually the

mentioned strategy. The signify departure denote in glaucoma patient was established to be 7.13 dB with a normal digression of -5.525 db. There is merely a little worldwide study obtainable on contrast connecting SITA-Fast or SITA-Standard worldwide index, while no restricted learn has been available so distant. The consequences of this learning will decide the dependability of use these 2 policies interchangeably, to pursue up of a glaucoma patient.

**METHODOLOGY:**

A cross-sectional research was conducted at Services Hospital, Lahore from February to November 2017. One hundred and eighty-four successive patient recruited for the learn, who vigorous in shape the subsequent principle:

**Insertion principle:**

The entire kind of Glaucoma cases having visual field imperfection in earlier 2 primaries.

- . Age set of 30-60 of the individually sexual categories.
- . Glaucoma suspects with increased intraocular pressure.
- . Learner mass among 3-6 mm.

**Exclusion Criteria:**

- . Cases with a visual insight reduced than 6/60.
- . Cases with a record of visual operation.
- . Cases have non-glaucomatous visual field defect example neurological wound optic disc illness, macular wound, optic neuritis, media opacities, verities, patois, and high ametropia.
- . Patient has some physical disability creation it complex to sit down.

We scrutinize the patient on Humphrey Visual field analyzer II, with white on the white perimeter, with 30-2 curriculum; use mutually SITA usual or SITA quick strategy. Sexual category, age, a region of the eye (Right/Left), analysis, visual insight, refraction, or learner mass was a record. Mutually examination of 1 eye was approved out within a week at the similar instant of the day. Value of PSD, MD or time in use to whole the assessment was renowned for together policy. Facts were examining, using SPSS. Signify or usual deviation was intended for age. Autonomous example t-test was used to contrast SITA- usual with SITA-Fast for principles of MD, PSD or time in use to total the assessment. A p-value of <0.05 was measured important.

**RESULT:**

These cross-sectional learning describe for a non-prospect / successive example. One hundred and eighty-four glaucoma patient, gathering the insertion criterion were recruited for the learning. While everyone issue undergoes perimeter inspection use

together algorithms, they serve as their possessing manages, or patients to patient's unpredictability in analysis consequences were also avoid. The signify age of the learning model was 60.5 year  $\pm$  8.6. Of the one hundred and eighty-four, a minor gent's preference was obvious with 99 (53.7%) of the topic person women's or 85 (46.3%), woman.

#### Universal Indexes:

**Signify divergence:** The signify divergence as intended by the Humphrey Visual Field Analyzer, use the SITA typical algorithm was (-14.04  $\pm$  6.32) dB.

The signify divergence as intended by the Humphrey Visual Field Analyzer, use the SITA quick algorithm was (-13.9  $\pm$  6.3) dB. There was no important dissimilarity connecting the standards generated by the 2 algorithms as  $p=0.297$ .

**Model typical divergence:** The signify sample usual divergence as intended by the Humphrey Visual Field

Analyzer, use the SITA average algorithm was (7.6  $\pm$  4.5) dB.

The signify model typical divergence as intended by the Humphrey Visual Field Analyzer, use the SITA quick algorithm was (7.4  $\pm$  4.3) dB. There was no important dissimilarity among the principles generated by the 2 algorithms as  $p=0.333$ .

**Time:** The standard time in min in use to observe the Glaucoma patient with the Humphrey Visual Field analyzer use the SITA typical Algorithm was 9.5 $\pm$ 2.5 minutes. The usual time in min in use to observe the Glaucoma patient with the Humphrey Visual Field analyzer use the SITA quick Algorithm was (6.35  $\pm$  2.2) minutes. The quick approach takes minor time for the assumed assessment, or the consequences were statistically important,  $p=0.00$  evocative figures for the over mention consequences.

**Table – I:** Expressive information of MD, PSD or time for SITA fast and standard

Variables	Minimum	Maximum	Mean	SD
Age	42	87	60.41	8.785
MD standard	-31.17	-0.38	-14.0359	6.31495
MD fast	-31.49	-0.46	-13.8307	6.24897
PSD standard	0.16	18.45	7.7185	4.48904
PSD fast	0.07	20.91	7.5435	4.24487
Time standard	3.3	17.38	9.3133	2.68177
Time fast	2.3	13.34	6.3492	2.15626

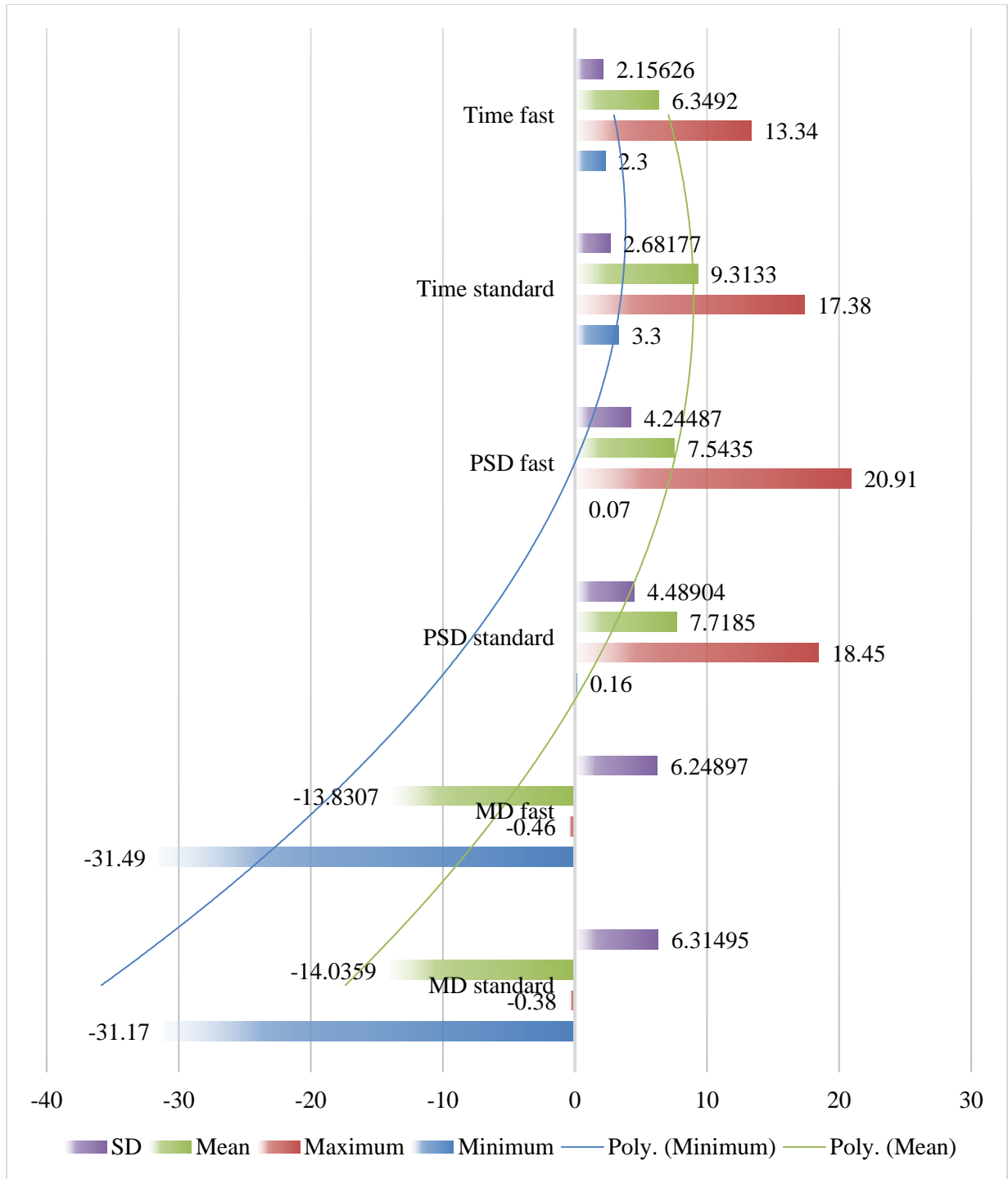
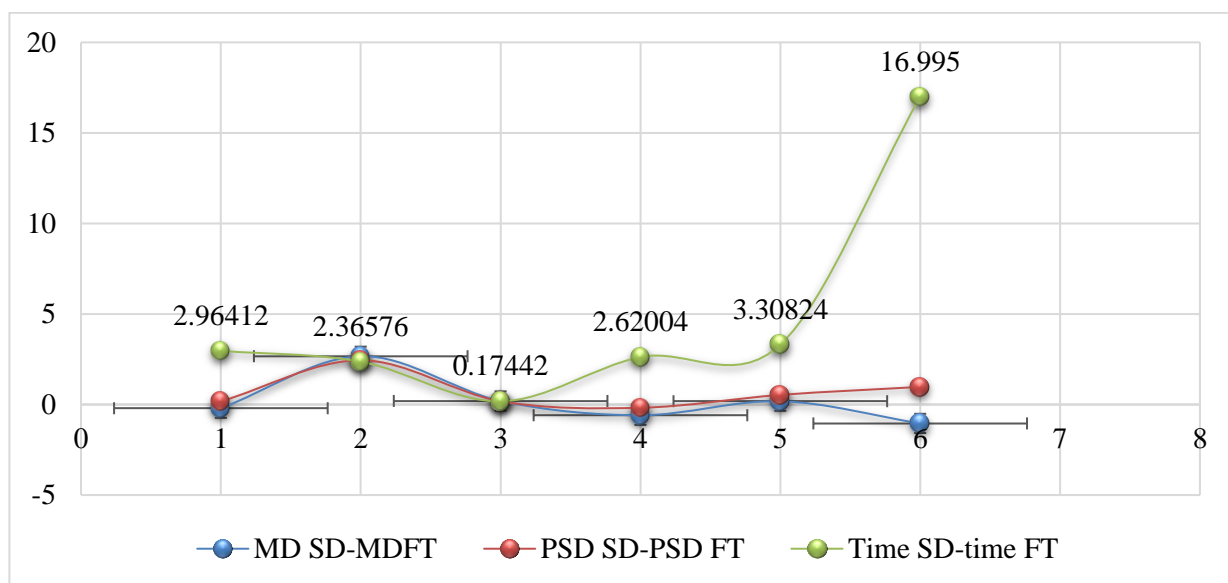


Table – II: Abstract of result

Outcomes	MD SD-MDFT	PSD SD-PSD FT	Time SD-time FT
Mean	-0.20517	0.17515	2.96412
SD	2.66558	2.44193	2.36576
Std Error	0.19652	0.18003	0.17442
Lower	-0.59287	-0.18003	2.62004
Upper	0.18255	0.53036	3.30824
t	-1.043	0.974	16.995
df	183	183	183
Sig (2 - tailed)	0.298	0.333	0



### DISCUSSION:

The initial learning regarding the lately establish SITA strategy was available in 1997, by Bentsen. The reason for their work was to expand the latest assessment strategy, which considerably decreases analysis time with no several declines of facts value. Central processing unit simulation was used in the previous study. fake analysis consequences achieve with this algorithm were a little further precise than those of the Humphrey complete Threshold analysis algorithm, but decisive results might merely be strained from medical test [4].

Even though extremely reproducible and precise field can be achieved with the conventional technique, the extent of examination is regularly a difficulty since of the conventional method of like the threshold by a staircase advance. The patients may finish exhausted or are consequently hesitant to acquire the examination. In several cases, the consequences of

the examination seem decline due to the exhaustion result [5].

Two mains commonly use automatic visual field assessment series are series thirty-two by Octopus or 30 – 2 by Humphrey. In together of this strategy seventy-six tip of the retina is experienced for the degree of different light feeling. In usual approach, Octopus make 4- 2-1 dB steps while Humphrey mechanism by 4 – 2 dB steps, together with 2 reversals, but every one of these strategies can take as long as 12 to 20 min\per eyes. They need 4 – 6 stimulus per site to attain an estimate where the threshold is cross at slightest one time [6]. The adding of stimulus to estimation false-positive or false-negative response or evaluation of intra-test reproducibility of the response adds still further time to the extent of the examination. This extent characterized a standard of 400 to 600 stimulus wanted inclusive the consideration. In the attention of

raising the patient console, as well as dropping tiredness consequence, quicker threshold strategy has been residential to estimation the feeling of the visual field in considerably few times than conservative staircase technique. Current advancement in the description of quicker examination strategy is SITA-Fast or SITA-Standard approach. Time is an essential changeable to organized as it influences the correctness of the consequences severely. Mainly glaucoma patient is elderly, and an extensive process tires them simply [7].

The signify age of the patient was sixty years older, our youngest glaucoma patients were forty-seven or oldest was eighty-six year of age. In our example, there was merely a little further gent's patient than women, 53.7% gents' contrast to 46.3% women's. This might have been owed to the unsystematic accident. Unlock angle glaucoma has no sex prevalence while angle end Glaucoma influence women's further than gents. It was not likely to dispense sexual category similarly in the example since of successive sample. Our learning is like consequences by Burden anywhere the MD was faintly improved use the SF than the SS. Their learning though, also include of association of this strategy to FT perimeter. Equally SITA Fast or Standard yield better consequences to filled threshold approach. In the similar learning by Burdens, there was no important difference in example normal variation involving SS ( $8.5 \pm 4.1\text{dB}$ ,  $P = .07$ ) or SF ( $8.2 \pm 3.5\text{dB}$ ,  $P = .18$ ). Contrast with FT ( $8.4 \pm 3.4\text{dB}$ ), the PSD was senior in SS field contrast with SF fields ( $P < 0.001$ ). This is like our learning which deduces that MD and PSD were not considerably dissimilar for the SS or SF strategy. Even though our accurate capacity was dissimilar from that of Burden, the dissimilarity connecting the standards was alike. The signify time taken for the conclusion of assessment the SS approach was 9:30 min or that with SF was 6:30 min. According to our consequences, it takes 33.35% little time with the fast approach than it does with the standard approach. Harumi or colleagues complete a medical assessment concerning the effectiveness of SITA algorithm for a showing of glaucoma or establish that it provides the intention. Norman estimated the threshold strategy of the Humphrey Field Analyzer, SITA normal or SITA quick, in usual or glaucoma patient. SITA Standard or SITA Fast has a propensity to undervalue visual turf defect. This is alike to the existing learning. Qualitative examination established synthetic minor and significant development of visual fields in 22% of the cases with SITA Standard or 30% with SITA Fast, a contrast to occupied Threshold. The instant decline in our learning was not as a lot analogous to

this learning, but Harumi details alike reduction in time as Norman did. Bergsten also performs a learn to explain or assess the latest fast SITA quick mechanized parametric threshold approach. SITA quick had considerably shorter examination time when contrast to the filled Threshold approach. Untamed or contemporaries dogged the within-visit among algorithm or the within-algorithm between-visit dissimilarity in compassion for the SITA normal, SITA quick, FASTPAC or complete Threshold algorithms in steady main unlock angle glaucoma. The assessment period improved with enhancing in the harshness of field failure, and this enlarge was proportionately superior for together SITA algorithms, chiefly SITA quick. The entirety or model difference prospect analysis of together SITA algorithms yields a statistically superior imperfection than complete Threshold or FASTPAC. The within-algorithm between-visit dissimilarity was alike linking SITA normal and complete Threshold or connecting SITA quick and FASTPAC. The entire consequences were statistically important. The margins of this learning are that non-probability expediency taster was use and model mass was minute, or the patient had few history knowledge of the perimeter. Extra testing of a superior sample of the universal residents will provide further in sequence concerning medical effectiveness of this earlier perimeter example approach.

#### CONCLUSION:

1. There is no important dissimilarity connecting MD or PSD acquire from SS or SF approach and individually have the similar consistency.
2. There is an important time decrease among SS and SF by SF attractive little time.
3. SF can be used for showing the intention of glaucoma patients as fine as to notice the sequence of illness as it is considerably earlier with similar consistency contrast to SS approach.

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