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Comparison Of Learning Styles Used By Clinical Faculty Of Hospital And General Practitioners For Their Professional Development

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ABSTRACT

Aims & Objectives: To compare the learning styles used by hospital clinical faculty and general practitioners for their professional development/ continued medical education.
Place and Duration of Study: This was a Comparative cross-sectional study carried out at Pakistan Kidney and Liver institute and research canter Lahore from October 2019 to November 2020.
Material & Methods: Total number of seventy-six medical professionals comprising thirty-eight members of clinical faculty and similar number of general practitioners were included in the study. Amongst these, 45 were males and 31 females' Learning style questionnaire adopted from Honey and Mumford was distributed to all the participants. According to the learning styles they were grouped into Activists, reflectors, theorists and pragmatists with preference categorization of Very strong, strong, moderate, low and very low. Data was entered and analyzed usin SPSS version 22 Chi-square test was applied to see the significant difference in two groups and P value was calculated and value of less than 0.05 was considered significant.
Results: There were 45 males and 31 females with ratio of 1.45:1 .In general practitioners the strongest learning style was reflector, followed by theorist, activist and pragmatists.While in the clinical faculty the strongest preference was again for reflectors, followed by activists then theorists and finally pragmatists, the significant difference statistically was only seen in the moderate preference in activist group which was 0.038.
Conclusion: Reflector type of learning style based on pondering, experiencing and observing different perspectives was strongly observed in both genders of consultants and general practitioners. However, a moderate degree of activist type of learning style influenced by doing and feeling was also noted in the general practitioners. Further planning instructional strategy and assessment based on these learning styles could benefit the career growth of these two groups of health professionals.

Keywords: learning style, general practitioners, clinical faculty, Health professionals

INTRODUCTION

Human beings have similar bio- psychological and social characteristics however their ability to grasp information and transferring it into logical meaning is different. This difference is termed learning style[1]. It is also defined as the characteristic cognitive, affective, and psycho-logical behaviors that serve as relatively stable indicators of how learners perceive, interact with, an d respond to the learning environment[2]. It is also defined as a way of thinking comprehending and processing information[3] and to Kolb it is a method of personal choice to perceive or process information[4]. Curry in 1987 proposed that overall learning depends on three factors and the model was stated as onion model. The central most part was personality variable, the middle one was of learning style and the outer most layer of onion depended upon instructional format preference[5].There are about thirteen major ways that learning styles are classified[6]. However, the commonest ones are of four types one was by Flemings who classified as VAK-Visual 29%, Auditory34% and Kinesthetic 37%[7]. This style has been used to assess the achievements of medical professionals[8].The second one was given by Kolb who classified as (accommodators), Divergers, assimilators and Convergers)[8]. Honey and Mumford classified as Activists, Reflectors, Theorists and Pragmatists. This classification was merged with that form Kolb as Activists (accommodators), Reflectors (Divergers), Theorists (Assimilator) and pragmatists (convergers)[9]. The Honey and Mumford learning styles [9]are plotted around two axes (Fig 1).
The horizontal axis is called the processing continuum and refers to how we approach a task, that is, preference to learn by watching or doing. Whereas the vertical axis is termed the perception continuum and refers to our emotional response to the task, or how we think and feel about it. Reflectors learn best when learning activity provides them opportunity to think and reflect. They want to understand things thoroughly before they try them

out. The activist learns in an environment of new, varied and continued activity. They don't want to hear what they should be doing; they want to dive in head-first and have a go.

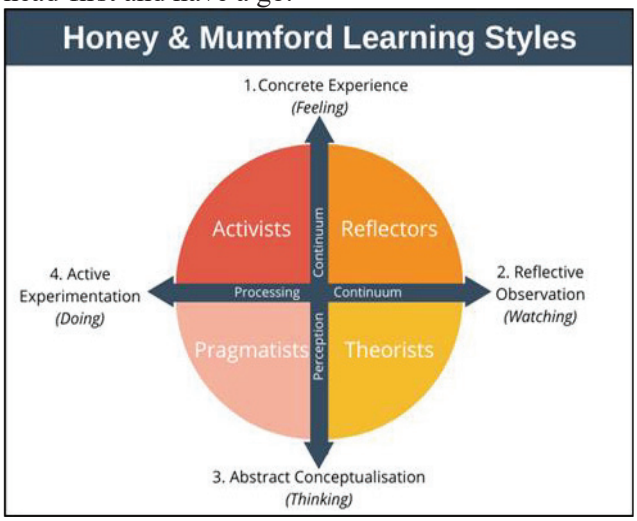

Fig-1: Honey and Mumford Learning Style.

The theorist learns best when they have time to analyze and synthesize. Theorists like to understand how the new learning fits into their 'framework' and into previous theories. They're likely to be uncomfortable with things that don't fit with what they already know. The pragmatist learns through practical and concrete issues of learning. Pragmatists care about what works in the real world. They aren't interested in abstract concepts; they just want to know if it works[10].Many individuals may not use single learning style and work in a continuum using more than one type[11]. A learner must understand how to identify their learning goals integrate learning style apply a properskill and be self-regulated to achieve the best results from learning[12]. Multiple studies examining the learning styles of health professionals were noted during literature search. Some of the studies were comparative, whereby the comparison was done amongst various groups of health professionals a) Specialists of different medical fields i.e Surgeons and medical specialist [13]. b) Residents and faculty members[14], c) Undergraduate medical students with postgraduate medical students[15], Medical students from various cities i.e. Islamabad, Gujranwala and from a particular university[16,17]. The other studies were confined to one type of professionals i.e. Pathologists[17], Nurses and General Practitioners. However, in the literature search no study was found which compared learning styles of general practitioners and consultants. The progress in medical profession could be dependent on the learning styles and different medical professionals have particular learning styles[19].The clinical faculty and general practitioner follow entirely different approaches towards career. The consultants after doing graduation enter a postgraduate programme, while the general practitioners go into practice usually without getting into a postgraduate degree/diploma program. The rationale of this present study was to see how the learning styles differ/or are similar among these two categories of medical professionals. If the two groups are following a particular learning style and are successful in their careers, then further planning instructional strategy and assessment would be easy and would benefit the growth of these two groups of health professionals.

MATERIAL AND METHODS

The study design was comparative cross-sectional.

Settings and participants: All members of clinical faculty (thirty-eight) of different specialities from Pakistan Liver and Kidney Institute and Research Centre were included in the study excluding those on leave during datacollection. Similarly, thirty-eight general practitioners were inducted from various locations of Lahore.

Data collection instrument: Quantitative data was collected through self-administered Honey and Mumford learning style questionnaire containing 80 questions. This was handed over to the participants and collected subsequently. The questionnaire comprised three sections, first section dealt with demographic data, second section -comprised 80 questions and the third section dealt with scoring and categorization. The scores were calculated according to question number which were assigned to a particular learning style and participants were categorized into Activists, theorist, pragmatist, and reflectors according to very strong, strong, moderate low and very low preferences. Basic demographic data was also collected including age, gender, experience and speciality. Completed form in all aspects were included and incomplete /poorly filled forms were excluded from the data.

Statistical Analysis

The data was analysed using SPSS version 22. Mode was calculated for the continuous variables like age. Frequency and percentage were calculated for the categorical variables like learning styles, gender and speciality. Chi square test was used to compare the frequency of different styles among the two categories. The P value of <0.05 was considered significant.

RESULTS

There were forty-five males and thirty-one females with ratio of 1.45:1. (Fig 2), the age range was between 25 and 75 years with mode of 25-35 years of age (Fig, 3). The results were compiled for two groups, clinical faculty and general practitioners according to the learning styles with the preference categorized as very strong, strong, moderate, low and very low.

General Practitioners:

In the general practitioner group, the very strong preferred learning style was reflector (11), followed by theorist (8), pragmatist (7) and activist (4) in the descending order. The females were also in the reflector group in the very strong and strong preferences (Table-1).

Clinical Faculty (Consultants):

In the consultants the most preferred learning style was reflector (8) followed by activist (5), pragmatists (4) and theorists (3) in descending order .The females also followed the same pattern with majority in reflector group (Table-2).Also seen in the comparative table of learning styles of consultants and general practitioners (Table-3).

However, the statistical analysis showed the significant p value was obtained in Activists groups in moderate preference category (Table-4). In this category general practitioners are more than clinical faculty.

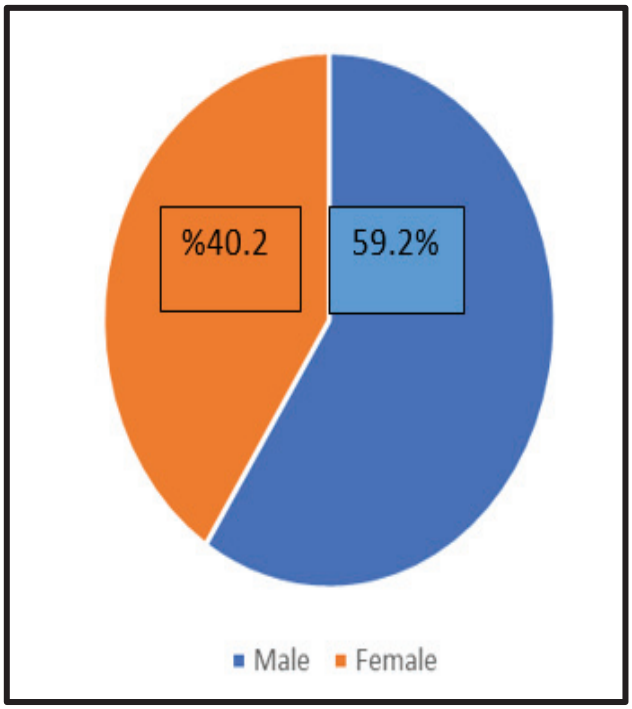

Fig-2: Gender distribution of all participants in the study on learning style –n=76

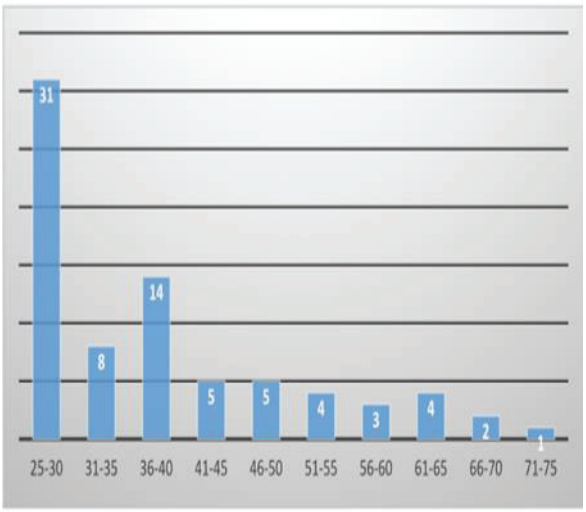

Fig-3: Age distribution of all participants in the study on learning style –n=76

General Practitioners							Total
Category	Gender	Very Strong	Strong	Moderat	Low	Very Low	
Activist	M	1(3%)	4(12 %)	7(14 %)	4(16 %)	1(6%)	17
	F	3(10%)	2(6 %)	11(22 %)	4(16 %)	2(12%)	22
Reflector	M	6(20%)	3(9 %)	5(10 %)	2(8 %)	1(6%)	17
	F	5(16%)	8(25 %)	6(12 %)	2(8 %)	1(6%)	22
Theorist	M	4(13%)	4(12 %)	6(12 %)	1(4 %)	2(12%)	17
	F	4(13%)	6(19 %)	5(10 %)	4(16 %)	3(18%)	22
Prag-matist	M	5(16%)	1(3 %)	4(8%)	5(18 %)	2(12%)	17
	F	2(6%)	3(9 %)	7(14 %)	5(18 %)	5(30%)	22
Total		30	31	50	27	17	

Table-1: Learning styles with preference category n=38 General practitioners.*+1GP data

Clinical Faculty (Consultants)							Total
Category	Gender	Very Strong	Strong	Moderate	Low	Very Low	
Activist	M	4(20 %)	2(7 %)	7(16 %)	12(33%)	4(25%)	29
	F	1(5%)	3(11 %)	2(4%)	3(8. 5%)	0	9
Reflector	M	6(30 %)	8(29 %)	9(19 %)	5(13 .5%)	1(6%)	29
	F	2(10 %)	3(11 %)	2(4%)	1(3 %)	1(6%)	9
Theorist	M	3(15 %)	5(18 %)	14(29 %)	7(19 %)	2(12.5%)	31
	F	0	3(11 %)	2(4%)	1(3 %)	1(6%)	7
Prag-matist	M	4(20 %)	3(11 %)	6(12 %)	7(19 %)	6(37.5%)	26
	F	0	1(3 %)	6(12 %)	1(3 %)	1(6%)	9
Total		20	28	48	37	16	

Table-2: Learning style with preference category n=38Clinical faculty (consultants).

Combined General Practitioners &Clinical Faculty (Consultants)							Total	%
Category	Gender	Very Strong	Strong	Mode-rate	Low	Very Low		
Activist	M	5(10%)	6(10%)	14(13%)	16(25%)	5(14%)	46	14
	F	4-8%	5-8%	13-12%	7-10%	2-6%	31	10
Reflector	M	12-24%	11-8%	14-13%	7-10%	2-6%	46	14
	F	7-14%	11-8%	8-8%	3-4%	2-6%	31	10
Theorist	M	7-14%	9-15%	20-19%	8-12%	5-14%	49	15
	F	4-8%	9-15%	9-9%	5-7%	4-11%	31	10
Prag-matist	M	9-18%	4-6%	10-10%	12-18%	8-22%	43	13
	F	2-4%	4-6%	13-12%	6-9%	6-17%	31	10
Total		50	59	101	64	34	308	

Table-3: Combined General Practitioners &Clinical Faculty (Consultants) Learning style n=76

Learning Style	Clinical faculty	G.P	P-Value
Very Strong Preference			
Activist	5	4	0.126
Reflector	8	11	0.426
Theorist	3	8	0.103
Pragmatist	4	7	0.328
Strong Preference			
Activist	5	6	0.744
Reflector	11	11	1
Theorist	8	10	0.589
Pragmatist	4	4	1
Moderate Preference			
Activist	9	18	0.03(Significant)
Reflector	11	11	1
Theorist	18	11	0.098
Pragmatist	12	11	0.802
Low Preference			
Activist	19	11	0.06
Reflector	8	6	0.553
Theorist	12	10	0.255
Pragmatist	15	17	0.642
Very Low Preference			
Activist	4	3	0.307
Reflector	2	2	0.867
Theorist	4	5	0.872
Pragmatist	7	7	0.414

Table-4: Comparison of learning styles between clinical faculty and general practitioners-Pvalue n=76.

DISCUSSION

This study compared the learning styles of consultants and general practitioners. These two groups follow different approaches in their carrier progression. The consultants were from clinical faculty of a hospital which in this study was (PKLI&RC) Lahore. This hospital is a tertiary care hospital mostly dealing with liver/Kidney transplant and related surgeries along with their medical management. The general practitioners were selected on the basis that they did not follow any specialized training to be in a clinical faculty. These were recruited from the general practitioner group practicing in various localities of Lahore.

On literature search, the learning style preference was variable in different groups of consultants. In the earlier studies medical specialists were found to be pragmatist[13,14]. However, in the later studies on full time consultants the learning style preference was for reflectors[14,15], this was true for the postgraduate students also[15] A study comparing learning styles of residents and faculty of internal medicine showed that both groups were mostly (theorist)[20]. In another study comparing learning styles among post graduate residents and full-time faculty showed consultants to be mostly reflector/ theorist[14]. The learning style also differed among postgraduate and undergraduate medical students. The postgraduate students were reflectors and undergraduate students were mostly activist[14].In two other studies medical students were mostly found to be reflectors[16,17]. Among the Pathologists the dominating learning style was reflectors followed by theorists[18].

A study conducted in Amman comparing learning style of surgeons to their medical colleagues showed mostly a mixed pattern, with most having combination of two learning styles. Eighty to ninety percent of both surgeons and physicians showed combination of reflector and theorist learning styles[21]. Another study on implication of surgical education from Alberta school Canada showed that most of the medical students had a assimilating (theorist) learning style and the faculty was (pragmatist) converger[22]. The undergraduate and practitioner nurses were found to be reflectors[23,24] .A comparative study from a Dentistry school in Latin America showed that both students and professors had a preference for reflector learning style followed by theorist[25]. Learning styles were assessed in the participants of continued medical education and found that the most preferred learning style was assimilating (Theorist) followed by diverger (reflector)[26].

The preferred learning styles also shows variation over time as seen in the studies in a same set up two decades apart. Which has shown a change from theorist learning style in 1993 to reflectors learning style in 2010[26].

Adult learners who were inducted for diploma course showed preference for three learning styles

activists, reflector and theorists. The pragmatist style was missing in this group[27,28] .

In all of the previous studies in different categories of medical professionals around the world the preferred learning style was reflectors in most of the consultant groups, in post graduate residents, and in nursing groups. In our study also the most strongly preferred learning style was reflector among the clinical faculty, so this showed a similarity between most of the previous studies. Considering the characteristics of this learning style the clinical faculty like to collect data and think about it. They make use of a concrete experience in perceiving and reflective observation in organizing, their strength is creativity, understanding others and developing a large perspective. It is likely that if they follow this learning style would likely help in their professional development.

General Practitioners:

Different studies on the learning styles in general practitioners were also evaluated. In one study it was found that out of 274 general practitioners about 43.8% were theorists, followed by reflectors 21%, and then pragmatists 18 % and finally activists 16%[29]. In another study from Hong Kong a pre-assessment followed by post assessment showed that most of them were reflector in both assessments[30]. In another study on general practitioner registrar suggested that the most prevalent learning style was reflector/theorist[31].

In our study the general practitioners were mainly reflectors followed by theorists, and then activists followed by pragmatists. Although there was some difference in the results, however in the previous studies a significant percentage of general practitioners were reflectors.

In both the groups under study the preferred learning style was reflector so they both may follow similar learning strategies in their professional development. They work as an integral part of health team as observers. They develop creative solutions, self-critique and analysis. The only statistically significant difference was seen in the moderate preference category of Activist learning style. That means that a significant number of general practitioners like to have new experiences. They like acting based on their feelings rather than mental analyses. Their strong point was practicality and they love to learn by doing.

If activists follow the strategy of practical approach towards the professional development they are likely to succeed more. Best learning strategy for them would be case based discussion, and interactive learning. They must have a hands-on experience for producing best results[15].

CONCLUSION

Reflector type of learning style based on pondering, experiencing and observing different perspectives was strongly observed in both genders of consultants and general practitioners. However a moderate degree of activist type of learning style nfluenced by doing and feeling was also noted in the general practitioners. Continued medical education (CME), instructional strategy and assessment based on these learning styles could enhance further academic career growth of these two groups of health professionals.

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