



PSYCHOMETRIC BEHAVIOUR AND ORGANIZATIONAL ATTRIBUTE AMONG FACULTY MEMBERS OF A DENTAL SCHOOL.

Dental Science

Dr Bhakti Sadhu* Dept. of Public Health Dentistry, Coorg Institute of Dental Sciences, K K Campus, Maggula, Virajpet – 571218, Karnataka, India *Corresponding Author

Betty Joy Undergraduate Student, Coorg Institute of Dental Sciences, K K Campus, Maggula, Virajpet – 571218, India

ABSTRACT

A cross sectional study was conducted to assess psychometric behaviours as well as organizational attribute among all the faculty members of a dental school in Karnataka. Data was collected using pretested, predesigned and structured close ended questionnaire, i.e. of Survey of Organizational Attribute for Dental Care (SOADC) instrument. Data was coded and fed in SPSS (IBM version 23) for analysis. Total of 64 dental faculty members had completed the survey, out of which 62.5% were males. Maximum participants 93.8% of them had completed their MDS. Overall highest and lowest mean score was obtained by the component Communication (3.6563±0.64852) and Stress/Chaos (2.6198± 0.28602) respectively. There was no statistical significant difference in mean scores of various dimensions of SOADC based on gender. This study showed that job satisfaction is associated with communication, decision making and stress/chaos. To provide safety and care to patient, dental professionals must take organization attribute into consideration.

KEYWORDS

Psychometric behaviour, organizational attribute, faculty members, dentist

INTRODUCTION:

Organizational attribute is important in today's world which includes patient satisfaction, quality of care and healthcare providers. But to provide a safe and high quality care to the patients depends on the attitudes, values and norms of behaviour among the health professionals (Ali et al, 2017).

For outstanding organizational performance, selection and development of excellent staff is a critical element. (Van der Merwe, 2002). After doing so also, satisfaction of job is associated to health care and delivery system. (Gavartina et al, 2013). With rising health problems, there is a shortage of health care professionals which has lead to poor quality care. Many countries have started assessing the level of patient care and performance by producing indicators or developing instruments (Ali et al, 2017).

Psychometrics is the field of research involved with the speculation and technique of psychological measurement (Ali et al, 2017). Psychometric assessment is the most effective way to predict behaviour and it should be handled with insight and sensitivity (Van der Merwe, 2002). Shared faith, approach, values and norms of attitude is included in organizational culture which is shared between friends or colleagues. To improve healthcare practice in an organization or daily practice, patient safety should be priority of the health professionals. Patient safety is multi-factorial and complex in nature. But the main objective is to avoid any accidents, obstacles, irreversible damage, etc.. Work or job experiences, other aspects including stress, family breakdown, grief, etc, also can have an effect on the patient safety (Ali et al, 2017). Many studies reported that technical and interpersonal skills of health care professionals are important attribute in patient assessment of health care. Patient satisfaction is affected by physician care, staff care, access or others are important healthcare quality attributes (Tung & Chang, 2009). So it is very important to know the behavioural aspects of practitioners, their level of knowledge, decision making, etc and to assess the psychometric behaviour (Ali et al, 2017).

There are many scales developed to measure the psychometric behaviour among the health care professionals. Among all of the scale, one such scale is Survey of Organizational Attributes for Primary Care (SOAPC) adopted by Goetz K et al in Germany to assess organizational attribute among dental health practitioners. In India, only one study was conducted to assess the psychometric attribute of dental healthcare organization (Ali et al, 2017). So this study was conducted with the aim to assess the psychometric behaviours as well as organization attribute with the help of modified version of the SOAPC instrument among the dental care practitioners in Karnataka.

MATERIALS AND METHODS:

A cross sectional study was conducted among the dental faculty members of a dental school in Virajpet, Karnataka. The study period

was one month (January, 2018). Prior to the start of the study, ethical approval and informed consent was obtained.

Data was collected using pretested, predesigned and structured close ended questionnaire, i.e. modified version of Survey of Organizational Attribute for Primary Care (SOAPC) instrument (Ali et al, 2017). The questionnaire comprised of two parts. The first part consisted of demographic data such as age, sex, level of qualification and designation. The second part assessed the psychometric behaviours as well as organizational attribute.

SOAPC is a German version which measures the diverse aspects concerning organizational culture in healthcare. It is also available in English which was used in this study. It comprised of 21 items. There are four predefined subscales of SOADC which includes: communication (4 items), decision making (8 items), stress/ chaos (6 items) and history of change (3 items).

Data was collected, coded and fed in the SPSS (IBM version 23) for analysis. Descriptive statistics included frequency, percentage, mean and standard deviation. Inferential statistics included Independent t test. The level of significance was set at 0.05 at 95% Confidence Interval.

RESULTS:

Sixty two participants responded and comprised of 40 (62.5%) males and 24 (37.5) females, with mean age 38.3125 ± 6.40785 years. Based on level of qualification, 93.8% had completed MDS. Based on the career prospective, 26.5%, 31.25%, 35.9% and 6.25% were Professors, Readers, Senior Lecturer and Tutors respectively.

Table 1 shows the distribution and mean for each item of SOADC of the dentists who responded to the questionnaire. Table 2 shows the comparison of each dimension of SOADC based on gender and it was reported that there is no statistical significant difference between males and females. The overall distribution of mean scores were 3.6563± 0.64852, 3.5625±0.53346, 2.6198± 0.28602 and 3.5833± 0.17214 for communication, decision making, stress/chaos and history change respectively.

DISCUSSION :

SOADC had shown a good reliability in Indian setting (Ali et al, 2017). In the component 'communication' overall highest mean score of 4.0625 was obtained by the subscale "Our staff has constructive work relationship" which was dissimilar to a study conducted by Ali I et al (2017) among dental practitioners of Ghaziabad. It was also dissimilar to a study conducted in Germany where the highest mean score was obtained by the subscale "When there is a conflict in this practice, the

people involved usually resolves the problem successfully". The reason behind such results might be because of the hierarchical and dental manpower variations in both the countries. High score indicate better communication which illustrates that the entire member works as a team through consultation, meeting and discussion with one another when there is any problem (Ali et al, 2017).

In the item, 'decision making' overall highest mean score of 4.125 was obtained by the subscale "Dental staff are involved in developing plan for improving quality" which is higher compared to other subscales obtained in the present study and in a study conducted by Ali I et al (2017) and by Goetz et al. In a study conducted by Ali I et al (2017) highest mean score of 2.97 was obtained for subscale "Practice encourage staff input for making changes and improvements and dental staff are involved in developing plan for improving quality". High score on decision making reveals that employees practicing consult with each other using a participatory approach before executing any decision (Ali et al, 2017).

In "stress/chaos" overall highest mean score of 3 was obtained by the subscale "the dentist in this practice very frequently feel overwhelmed by the work demands" which is slightly more as compared to a study compared to the score obtained by Ali I et al (2017). The higher scores of stress/chaos reveal that the practitioners feel overwhelmed by the workload. If the work place is stressful/chaotic, there is often less communication and participation in decision making (Ali et al, 2017).

In the item "history of change", overall highest mean score of 3.75 was obtained by the subscale "our practice has changed in how it takes initiative to improve patient care" which is dissimilar to the study conducted by Ali I et al (2017) where the highest score of 3.41 was obtained by the subscale "our practice has changed in how everyone relates". The variation in scores might be because of change in practice level which is accomplished with low communication decision making in high stress/chaotic work environment (Ali et al, 2017).

However to our knowledge, there are only two studies, one in India and one in Germany, there is not much literature available for comparison of this study which proved a major limitation. There can be perception bias as the study has assessed self perception attitude of the participants. A longitudinal study can be carried out to assess causality among the variability or to give the causal relationship. The instrument can be used on a larger scale comparing different healthcare levels and setups at an international level. This study can be a guideline to assess psychometric analysis to measure other factors responsible in organization attribute in a healthcare system.

SOADC assesses the condition for working together and also assesses if a good structure and process of care is assured or not. If we improve the practice quality management system, the quality of dental care can be good (Ali et al, 2017).

Ohman Strickland et al (2007) conducted a study to assess individual team member's perceptions of resources for change, including relationships among practice members, leadership and decision making approaches, communication, and perception of competing demands in outpatient primary health care setting. Studies have reported that patient feedback should be emphasized to differentiate the patient and dentist expectations of preventive care (Templeton, 2016).

In a study conducted in Brazil, an instrument was developed to assess comprehensiveness of care that presented good psychometric properties. It measured teamwork needs, training, flow between primary and secondary dental care, continuity of care and health service management support. It was reported that such instruments will be useful for diagnoses, knowledge and practice (Maciel Mattos et al, 2017) Many common dimensions are emerging including management support for patient safety, attitudes to innovation and risk taking, outcome orientation, internal/external focus, people orientation, competitiveness/aggressiveness, supervisors action promoting patient safety, teamwork within and across units, handoffs and transitions, non punitive response to error, frequency of incidents reported, communication openness and organizational learning. To improve the quality of care, clinical governance needs to be underpinned by a culture (Al Salem, Bowie & Morrison, 2019; Davies, Nutley & Mannion, 2000). There is a paucity of literature in this field, especially in the dental public health literature; therefore such instruments should be developed to measure both classical test theory and item response theory in evaluation of psychometric properties to improve the quality of care (Maciel Mattos et al, 2017).

CONCLUSION:

The study has helped us identify self-perception attitude of dentists and job satisfaction with communication, decision making and stress/chaos. The results can be used for accountability and to drive improvement. SOADC is an instrument with good psychometric behaviours. These instruments will help us assess the conditions which are important for working together and quality of dental care. Patient safety must be a priority of any healthcare professionals and to provide this, the professionals should take organizational attribute into consideration.

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Table 1: Distribution for each item of the survey of Organizational attributes in dental care.

Items and subscales of SOADC	Respondent's comments					
	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	Mean ± SD
Communication						
When there is a conflict in this practice, the people involved usually resolve the problem successfully.	2(3.1)	0(0)	14(21.9)	32(50)	16(25)	3.9375± 0.87759
Our staffs have constructive work relationship.	2(3.1)	0(0)	14(21.9)	24(37.5)	24(37.5)	4.0625± 0.94826
There is often tension between people in this practice.	12(18.8)	16(25)	18(28.1)	16(25)	2(3.1)	2.6875± 1.14828
The dental staff and the dentist in this practice operate as a real team.	2(3.1)	2(3.1)	12(18.8)	30(46.9)	18(28.1)	3.9375± 0.94826
Decision making						
This practice encourages staff input for making changes and improvements.	2(3.1)	4(6.3)	10(15.6)	36(56.3)	12(18.8)	3.8125± 0.93109
This practice encourages nursing and clinical staff input for making changes and improvements.	2(3.1)	12(18.8)	18(28.1)	22(34.4)	10(15.6)	3.4063± 1.07341
All the staff participants in important decisions about the clinical operation.	2(3.1)	8(12.5)	6(9.4)	40(62.5)	8(12.5)	3.6875± 0.96512
Practice leadership discourages dental staff from taking initiatives.	2(3.1)	26(40.6)	24(37.5)	12(18.8)	0(0)	2.7188± 0.81258
This is a very hierarchical organization; decisions are made at the top with little input from those doing the work.	4(6.3)	28(43.8)	12(18.8)	14(21.9)	6(9.4)	2.8438± 1.13903

The leadership in this practice available for consultation on problem.	0(0)	4(6.3)	12(18.8)	40(62.5)	8(12.5)	3.8125± 0.73780
The practice defines success as a teamwork and concern for people.	0(0)	2(3.1)	10(15.6)	32(50)	20(31.3)	4.0938± 0.77707
Dental staffs are involved in developing plan for improving quality.	0(0)	4(6.3)	6(9.4)	32(50)	22(34.4)	4.1250± 0.83280
Stress/chaos						
It is hard to make any change in this practice we are so busy seeing patients	10(15.6)	20(31.3)	28(43.8)	4(6.3)	2(3.1)	2.5000± 0.95038
The dentist of this practice very frequently feel overwhelmed by the work demands	2(3.1)	12(18.8)	38(59.4)	8(12.5)	4(6.3)	3.0000± 0.84242
The non-dental staff members/nurses in this practice very frequently feel overwhelmed by the work demands	0(0)	18(28.1)	38(59.4)	6(9.4)	2(3.1)	2.8750± 0.70711
Practice experienced as stressful	6(9.4)	24(37.5)	22(34.4)	10(15.6)	2(3.1)	2.6563± 0.97085
This practice is almost always in chaos	18(28.1)	28(43.8)	10(15.6)	2(3.1)	6(9.4)	2.2187± 1.18415
Things have been changing so fast in our practice that is hard to keep up with what is going on.	6(9.4)	30(46.9)	22(34.4)	4(6.3)	2(3.1)	2.4688± 0.87931
History of change						
Our practice has changed in how it takes initiative to improve patient care	0(0)	4(6.3)	18(28.1)	32(50)	10(15.6)	3.7500± 0.80322
Our practice has changed in how it does business	0(0)	4(6.3)	24(37.5)	32(46.9)	6(9.4)	3.5938± 0.75602
Our practice has changed in how everyone relates	0(0)	2(3.1)	38(59.4)	20(31.3)	4(6.3)	3.4062± 0.66524

Table 2: Comparison of dimension of SOADC based on gender.

Overall SOADC	Gender		Significance
	Males	Females	
Communication	3.55± 0.70119	3.8333±0.56519	0.534
Decision making	3.525± 0.51478	3.625± 0.60421	0.899
Stress /chaos	2.6083±0.23541	2.6389±0.40023	0.243
History change	3.5167± 0.10408	3.6945± 0.29264	0.098

References:

- Al Salem, G., Bowie, P., and Morrison, J. (2019) Hospital Survey on Patient Safety Culture: psychometric evaluation in Kuwaiti public healthcare settings. *BMJ Open*, 9, e028666.
- Ali, I., Singla, A., Gupta, R., Pathi, B., Dhama, K., Niraj, K. L., et al. (2017). Psychometric utility in determining dental organizational attribute: a cross sectional study in Ghaziabad, India. *Journal of Clinical and Diagnostic Research*, 11(7), ZC52-ZC55.
- Davies, H.T.O., Nutley, S.M., and Mannion, R. (2000) Organizational culture and quality of health care. *Quality in healthcare*, 9, 111-119.
- Gavartina, A., Zaroti, S., Szecsenyi, J., Miksch, A., Ose, D., Campbell, S. M. et al. (2013) Practice assistants in primary care in Germany- associations with organizational attributes on job satisfaction. *BMC Family Practice*, 14, 110.
- Kumar, J.K., Gupta, R., Basavaraj, P., Singla, A., Prasad, M., Pandita, V. et al. (2016) An insight into health care setup in national capital region of India using Dimensions of Learning Organizations Questionnaire (DLOQ) – a cross sectional study. *Journal of Clinical and Diagnostic Research*, 10(6), ZC01-ZC05.
- Maciel Mattos, G.C., Mambri, J.V., Gallagher, MBE. J.E., Paiva, S.M., Guimaraes de Abreu, M.H.N. (2017) Evaluating psychometric properties of an instrument addressing comprehensiveness of care among dentists. *Brazilian Dental Journal*, 28(5), 638-646.
- Ohman-Strickland, P.A., Orzano, A.J., Nutting, P.A., Dickinson, W.P., Scott-Cawiezell, J., Hahn, K. et al. (2007) Measuring Organizational attributes of primary care practices: development of a new instrument. *HSR:Health Services Research*, 42(3), 1257- 1273.
- Templeton, A.R., Young, L., Bish, A., Gnich, W., Cassie, H., Treweek, S. et al. (2016) Patient organization and system level barriers and facilitators to preventive oral healthcare: a convergent mixed methods study in primary dental care. *Implementation Science*, 11(5), 1-14.
- Tung, Y., and Chang, G. (2009) Patient satisfaction with and recommendation of a primary care provider: associations of perceived quality and patient education. *International Journal for Quality in Health Care*, 21(3), 206-213.
- Van der Merwe, R.P. (2002) Psychometric testing and human resource management. *SA Journal of Industrial Psychology*, 28(2), 77-86.