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Assessment of Knowledge, Attitude and Practice towards Oral Health Care among Pharmacists in Kakinada City-Andhra Pradesh

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Abstract

BACKGROUND: It is common practice for many people to resort to pharmacists for advice regarding health problems. Most of the general population frequently approach and contact pharmacists for their health related issues. **PURPOSE:** To assess knowledge, attitude and practice towards oral health care among pharmacists in Kakinada city – Andhra Pradesh. **METHODOLOGY:** A cross sectional study was conducted on pharmacists in Kakinada city. List of registered pharmacists was provided by East Godavari pharmacists association and there are 512 registered pharmacists working in pharmacy outlets located in Kakinada region. Collection of data was done using a pre-validated questionnaire. A pilot study was conducted on 15 pharmacists. After excluding the pilot study participants, the final sample size is 497. Collection of data was done using a pre-validated questionnaire. Statistical analysis was performed using SPSS software. Descriptive statistics, Student t – test and the ANOVA test followed by Post-hoc test were applied.P value < 0.05 was considered statistically significant. **RESULTS:** Majority of pharmacists 61.94% were having good knowledge regarding oral health issues. While 7.9% were having poor knowledge regarding oral health issues. 95.5% were very confident while giving advice on tooth ache. **CONCLUSION:** Findings revealed that pharmacists have the knowledge and positive attitude to play an important role in oral care. This study suggests that pharmacists had advisory and referral roles in oral health and acknowledged that they could play a good role in oral health promotion.

Keywords
Pharmacists, Knowledge, Attitude, Oral health care.

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INTRODUCTION:

Oral health is a component of general health and it has important role on the entire well-being of individuals. Maintaining oral health is much more than clean teeth. It involves the maintaining the health of gums and their supporting tissues. Recent research has indicated possible associations between chronic oral infections and diabetes, heart and lung disease, stroke, and low birth weight or premature births. In other words, oral health refers to the over-all health that, ultimately, supports and reflects the health of the entire body [1].

Use of tooth brushes with correct techniques, tooth paste containing fluoride, healthy diet , usage of

mouth wash and dental floss all these will help people to improve their oral hygiene, beside regular check-up in dental clinic will help in early detection of any oral health problems in initial stages [2].

It is common practice for many people to resort to pharmacists for advice regarding health problems. Most of the public frequently approach and contact pharmacists for their health related issues because of variety of reasons: lack of time, financial constraints, the fear of hospitals**,** due to accessibility and long opening hours of the pharmacies, difficulty in getting an appointment with the physician or dentist, especially for disadvantaged populations, including rural residents who find it difficult to access dental care , the high cost of oral healthcare etc. [3].Due to the above mentioned reasons most of the public with Dental problems take self-medication unnecessarily from pharmacy for the temporary relief of dental pain instead of visiting the dentist for the appropriate treatment.

Pharmacist with good knowledge, perception and practice can optimize this unnecessary medication usage and motivate the patient in seeking oral health care and guide patients towards good oral health habits. There are a variety of ways by which a pharmacist can play an active role in oral disease prevention, identification, assessment, and referral. Even though they cannot take over the role of dental professional, they can endorse the advice given by them [4].Pharmacists can emphasize the nature of dental disease, its prevention, and importance of regular dental check-ups and medications. However, there are few studies evaluating the role of pharmacists in the provision of oral health care advice. Little information exists regarding their source of knowledge perception and practice towards oral health care [5,6]. Therefore, in order to better understand these lacunae, the present study was planned with an aim to assess the Knowledge, perception and practice towards oral health care among pharmacists in Kakinada city – Andhra Pradesh.

MATERIAL AND METHODS:

A cross-sectional study was conducted from June 2nd, 2020 to June 29th, 2020 on pharmacists in Kakinada city. List of registered pharmacists was provided by East Godavari pharmacists association and there are 512 registered pharmacists working in pharmacy outlets located in Kakinada region. Ethical clearance was obtained from the Institutional Ethical Committee, Lenora Institute of Dental Sciences Rajanagaram**.** Informed consent was obtained from each participant prior to the study. Collectionn of data was done using a pre-validated questionnaire. A pilot study was conducted on 15 pharmacists and they are not included in the final sample. After excluding the pilot study participants, the final sample size is 497.

The investigator approached the pharmacists and explained them the purpose of the study. Only one registered pharmacist from each pharmacy outlet was allowed to participate in the study and sufficient time was provided for the participants to complete the questionnaire. Filled questionnaires were collected by the same investigator. Data was eentered in to Microsoft excel sheet and statistical analysis was performed using SPSS version 23.Descriptive statistics , Student t – test , ANOVA test and Post-hoc tests were applied . P value < 0.05 was considered statistically significant.

ELIGIBILITY CRITERIA:

Selection of study participants was made using the following eligibility criteria:

INCLUSION CRITERIA:

- Pharmacists who were willing to participate in the study
- Functional pharmacy outlets

EXCLUSION CRITERIA:

- Pharmacy outlets with no proper license and registration
- Non-functional pharmacy outlets.

RESULTS:

Among 497 study participants, 412(83%), 85(17%) were males and females respectively. Majority of the participants 365(73.4%) were from urban region while 132(26.6%) were from rural region. With regard to the educational level of the participants 306(61.6%) pharmacists with D. Pharm degree. While 102(29.5%), 65(13.1%), 24(4.8%) with B. Pharm, M. Pharm degrees, other education qualifications, respectively. Majority of the participants 145(32.6%) were having 12 years or more years of practice with daily 290(65.2%) of patients per day. [Table 1]

Pharmacists knowledge regarding oral health issues were analysed and scores (poor, fair, good) were given depending on their knowledge. Majority of pharmacists 61.94% were having good knowledge regarding oral health issues. While 7.9% were having poor knowledge regarding oral health issues. Out of 455 study participants only 1.1% received training on oral health through conferences and seminars. While 98.9% have not received any training on oral health. [Table 2]

While giving advice on oral health conditions like Teething, Bad breath, Loose crowns, Toothache, Gum diseases, Dry mouth, and Sensitive tooth. Pharmacists confidence rate was analysed and grading (Confident, Neutral, Unconfident) were

given for their confidence rates. Majority 425(95.5%) were confident while giving advice on tooth ache. while 5(1.1%) were neutral about giving advice on loose crowns and 385(86.5%) were unconfident about giving advice on teething. [Table 3]

Majority 270(60.7%) pharmacists opined the inclusion of oral health problems related to cancer and cancer treatments (dry mouth, mucositis, etc.) in their training program. [Table 4]

A highly significant difference was (0.004) was observed in practice score domains among male and female participants. [TABLE 5].

Educational levels of pharmacists were compared for perceived knowledge, attitude, practice and barriers scores. Among the 4 domains significant difference was observed for practice score. When Post-hoc test was applied followed by Anova. Significant difference was observed for practice score among groups (Ⅰ, Ⅱ) and (Ⅱ, Ⅲ).

TABLE 1 SOCIODEMOGRAPHIC DETAILS OF THE PARTICIPANTS

VARIABLE		N(%)
GENDER	MALE	412 (83%)
	FEMALE	85 (17%)
EDUCATION LEVEL	M. Pharm	65 (13.1%)
	D. Pharm	306 (61.6%)
	B. Pharm	102 (29.5%)
	Other	24 (4.8%)
REGION	URBAN	365 (73.4%)
	RURAL	132 (26.6%)
CUSTOMERS VISITING THE PHARMACY PER DAY	10-50	40 (9.0%)
	50-100	290 (65.2%)
	>100	115 (25.8%)
YEARS OF WORKING IN THE PHARMACY	< 6 Months	20 (4.5%)
	6 Months to less than 1 year	5 (1.1%)
	1 year to less than 3 year	60 (13.5%)
	3 years to less than 6 years	130 (29.2 %)
	6 years to less than 12 years	85 (19.1%)
	12 years or more	145 (32.6%)

TABLE 2 KNOWLEDGE OF PHARMACISTS REGARDING ORAL HEALTH CARE:

Poor	35(7.9%)
Fair	130(29.2%)
Good	280(61.94%)

TABLE 3 PHARMACISTS CONFIDENCE RATE WHILE GIVING ADVICE ON ORAL HEALTH CONDITIONS:

Oral-health conditions	Confident	Neutral	Unconfident
Teething	50 (11.2%)	10 (2.2%)	385 (86.5%)
Bad breath	345 (77.5%)	40 (9.0%)	60 (13.5%)
Prosthesis	15(3.4%)	5 (1.1%)	35 (7.9%)
Tooth ache	425 (95.5%)	30 (6.7%)	315 (70.8%)
Gum diseases	375 (84.3%)	35 (7.9%)	100 (22.5%)
Dry mouth	170 (38.2%)	10 (2.2%)	260 (58.4%)
Sensitive teeth	400 (89.9%)	30 (6.7%)	15 (3.4%)

TABLE 4 PHARMACIST'S OPINION ABOUT THE TOPICS THAT SHOULD BE INCLUDED IN TRAINING PROGRAMS ON ORAL CONDITIONS:

Directions for use of oral care products	40 (9.0%)
Smoking cessation	65 (14.6%)
Prevention of decay in children	15 (3.4%)
Gum problems	20 (4.5%)
Denture hygiene	5 (1.1%)
Oral cancer	25 (5.6%)
Oral health problems related to cancer and cancer treatments (dry mouth, mucositis, etc.)	270 (60.7%)
Other (Please specify):	5 (1.1%)

TABLE 5 EVALUATION OF PERCEIVED KNOWLEDGE SCORE, ATTITUDE SCORE, PRACTICE SCORE, BARRIERS SCORE ACCORDING TO GENDER:

Gender	Perceived knowledge score	Attitude score	Practice score	Barriers score
Male	30.26 ± 9.52	6.46 ± 2.01	36.66 ± 8.79	1.64±0.98
Female	29.41 ± 8.78	6.73±1.93	34.39±7.88	1.53±0.93
P – value	0.31	0.136	**0.004**	0.186

(Student t – test was applied)

TABLE 6 COMPARISON OF MEAN VALUES OF PERCEIVED KNOWLEDGE SCORE, ATTITUDE SCORE, PRACTICE SCORE, BARRIERS SCORE OF EDUCATION LEVEL AMONG STUDY PARTICIPANTS:

Education Level	Perceived knowledge score	Attitude score	Practice score	Barriers score
M.Pharm (I)	29.86±9.01	6.61±1.98	35.38±8.20	1.52±0.92
D.Pharm (II)	31.41±8.91	5.95±2.05	39.46±8.37	1.46±0.78
B.Pharm (III)	27.17±9.03	6.81±1.91	33.47±7.85	1.69±0.92
Other (IV)	30.58±9.11	6.72±1.94	35.03±7.15	1.68±1.06
P - value	0.072	0.305	**0.025**	0.285
Significant pairs	-	-	(I , II),(II ,III)	-

(Anova , Post-hoc test were applied)

DISCUSSION:

From dispensing medications to providing basic health care advices to the patients, the role of pharmacists has expanded. Studies have been reported that pharmacists are the second most used source for advice on health matters and therefore, can be used in an oral health aspect [7]. This cross-sectional study assessed the pharmacists knowledge, attitude and practice towards oral health care. In the present study, males (83%) are more in number when compared to females (17%) as female pharmacy graduates are less in the study region

might be the reason. These findings are similar with the study done by Shwetha R et al [8], Baseer M et al [9]. Whereas in the study done by Hajj A et al [6], Hoang H et al [10], Rajiah K et al [11], female participants are high due to more number of female pharmacy graduates and pharmacy chains with good job opportunities for females.

Distribution of pharmacists in urban region (73.4%) is higher than in rural region as drug usage and demand for pharmacists was more in urban region compared to rural region might be the reason. which was similar with the study done by Scott DM et al [12], Freeman, CR et al [13]. Among the study participants (61.94%) are having good knowledge regarding oral health care knowledge acquired through practice and internet might be the reason. Similar findings are observed in the study done by Hajj A et al [6]. Whereas in the study done by Maunder PEV and Landes DP [14] pharmacists are having less knowledge regarding oral health.

Majority of the pharmacists (61.6%) were D. Pharm graduates. Similar findings were observed in the study done by Hajj A et al. Contrary results were seen in the study done by Baseer. M et al [9], Bawazir OA et al [15], Alaa Chakhachiro et al [16].

Majority (95.5%) were very confident while giving advice on tooth ache. As it was the common oral health problem in their practice. Pharmacists dispensed short term pain relief drugs and recommended patients with pain to visit dentist.While (1.1%) pharmacists were neutral about giving advice on loose crowns and (86.5%) were unconfident about giving advice on teething as they were uncommon oral health problems in their practice and have no knowledge regarding those oral health conditions . Similar results were observed in the study done by Hajj A et al [6], Bawazir OA [15], Taiwo OO et al [17], Freeman CR et al [13]. Disimilar results are seen in the study done By Taing MW et al [18] as pharmacists has no access to oral health information.

Majority of Pharmacists expressed an interest in developing their oral healthcare knowledge further through attending training programmes on oral health. similar results were observed in the study done by Bawazir OA et al [15], Al-Saleh H et al [19], Dumitrache MA et al [20]. Among study participants practice score domain was found to be significantly high as majority of the pharmacists gained their knowledge through practice and lack of oral health training programs also might be the reason. similar results were observed in the study done by Bhagavathula AS et al [21] .Whereas dissimilar results were identified in the study done by Hallit S et al [22], Priya S et al [3]

Limitations of this study were as the findings were self-reported, it may be subjected to respondent recall bias and social desirability bias.

CONCLUSION:

This study findings revealed that pharmacists have the knowledge and positive attitude to play an important role in oral care despite all barriers and difficulties. The pharmacists expressed their need for education and training to enhance their practice. Pharmacists are presently underutilized by the dental health professionals and there is a definitive need to improve their training and access to information on available dental services.

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REFERENCES:

1) Fiorillo L. Oral Health: The First Step to Well-Being. Medicina .2019 ; 55(10):1-4
2) Benjamin RM. Oral health: the silent epidemic. Public Health Rep. 2010; 125(2):158-159.
3) Priya S et al.Knowledge and attitudes of pharmacists regarding oral health careand oral hygiene products in Chennai city. Indian J Dent Res 2008: 19(2); 104-8
4) Chestnutt, I G et al. "The provision of dental and oral health advice by community pharmacists." Br Dent J 184,11 (1998): 532-4.
5) Sturrock, A et al. Oral health promotion in the community pharmacy: an evaluation of a pilot oral health promotion intervention. Br Dent J **223,** 521–525 (2017).
6) Hajj, Aline et al. Assessment of knowledge, attitude and practice among community pharmacists towards dental care: A national cross sectional survey. Saudi pharmaceutical journal: SPJ: the official publication of the Saudi Pharmaceutical Society vol. 27, 4 (2019): 475-483.
7) Dalton K, Byrne S. Role of the pharmacist in reducing healthcare costs: current insights. Integr Pharm Res Pract. 2017; 6:37-46.
8) Shwetha.R et al. Knowledge and attitude of pharmacists regarding oral Health care and oral hygiene products in Davangere City, Karnataka, India. iaphd2011:9(5):441-446
9) Baseer MA et al Oral health knowledge, attitude, and self-care practices among pharmacists in Riyadh, Riyadh Province, Saudi Arabia. J Int Soc Prev Community Dent. 2016; 6(2):134–41.
10) Hoang H et al "The public rely on me a lot": Rural pharmacist's perspectives on their roles in oral health care. Aust J Rural Health. 2019; 27(1):57–63.
11) Rajiah K, Venaktaraman R. The effect of demographic and social factors on the decision-making of

community pharmacists in ethical dilemmas. J Res Pharm Pract. 2019; 8(3):174–7.

12) Scott, David M et al. "Assessment of pharmacist's delivery of public health services in rural and urban areas in Iowa and North Dakota." Pharmacy practice vol.14,4(2016):836.doi:10.18549/PharmPract.2016.04.836
13) Freeman CR et al A national survey exploring oral healthcare service provision across Australian community pharmacies. BMJ Open. 2017;7(9):1-11
14) Maunder, P E V, and D P Landes. "An evaluation of the role played by community pharmacies in oral healthcare situated in a primary care trust in the north of England." Br Dent J. 199;4 (2005): 219-23
15) Bawazir, Omar A. "Knowledge and attitudes of pharmacists regarding oral healthcare and oral hygiene products in riyadh, saudi arabia." Journal of international oral health: JIOH vol. 6, 6 (2014): 10-3.
16) Chakhachiro, A et al (2019). Evidence-Based Practice among pharmacists in Northern Emirates and Fujairah: A Cross-sectional Survey. J. Pharm. Sci. & Res. Vol. 11(2), 2019, 331-338
17) Taiwo O, Panas R. Knowledge of community pharmacists regarding oral health care in Plateau State, Northern Nigeria. J Int Oral Health. 2017; 9(5) :222.
18) Taing.M et al. Describing the role of Australian community pharmacists in oral healthcare international journal of pharmacy practice.2016:24(4) :237- 246
19) Al-Saleh H et al. Role of community pharmacists in providing oral health advice in the Eastern province of Saudi Arabia. The Saudi Dental Journal. 2017; 29(3):123-128.
20) Dumitrache M.A et al. The pharmacist's role in preventive and pharmaceutical treatment for oral diseases.farmacia 2016,64.(6):966-969
21) Bhagavathula AS et al .Pharmacy students' knowledge about aging and rational geriatric pharmacotherapy in India: A cross-sectional study. Gerontol Geriatr Educ. 2021 Feb 7:1-14.
22) Hallit S, Hajj A, Sacre H, Zeenny RM, Akel M, Sili G, et al. Emphasizing the role of pharmacist as a researcher: The Lebanese order of pharmacists perspective. J Res Pharm Pract. 2019; 8(4):229–30.