

KAP STUDY

GENERAL PRACTITIONERS' KNOWLEDGE REGARDING FUNCTIONAL DYSPESIA

Farah Ahmad¹, Syed Hasan Danish¹, Ahsan Ashfaq², Sharmeen Naz³, Rao Abdul Basit⁴

¹Department of Community health sciences, Ziauddin University, Karachi

²Liaquat National Hospital and Medical College

³Medical Officer Dow University of health Sciences

⁴Manager Referral Program Sina Health Education Welfare Trust

ABSTRACT

Background: Most researches on Gastrointestinal (GI) disorders are conducted in secondary health care settings, yet majority patients present at a primary health care level. Functional dyspepsia (Idiopathic or non ulcer dyspepsia) constitutes a tremendous workload in primary care. This study aims to assess the knowledge of general practitioners regarding functional dyspepsia.

Methods: Data was collected through a cross sectional study in 2016, targeting 18 towns of Karachi. Multi-stage sampling technique was employed. A total of n=250 general practitioners were inducted in the study. Data was collected through self administered questionnaire developed from the ROME III guidelines of functional dyspepsia. Descriptive analysis was carried out through SPSS 21.

Results: From the total n=250 general practitioners only 17.5% were able to correctly identify the correct definition of functional dyspepsia. Less than 1% knew that ROME III guidelines are being followed for management of functional dyspepsia. The diagnostic criterion for functional dyspepsia was known to only 15% general practitioners. Only two alarm signs were identified by the participants of the study.

Conclusion: The average number of patients seen by General Practitioners is high yet their knowledge is weak and practices are not according to the standard guidelines

KEYWORDS: Dyspepsia, General Practitioners, functional Gastrointestinal disorder, Primary health care

Corresponding Author

Dr Farah Ahmed

Associate Professor,

Department of Community Health Sciences

Ziauddin University, Karachi

Email: farga24@gmail.com

INTRODUCTION

Most researches on Gastrointestinal (GI) disorders are conducted in secondary health care yet majority patients are consulted at primary health care level.¹ In UK alone, GI problems accounts for around ten percent of cases in primary health care level, at least half of this workload are attributed to dyspepsia.² A recent study conducted in Rwanda on Healthcare Workers to assess the prevalence of dyspepsia revealed a high frequency.³ Frequently dyspepsia is deemed to be functional as it is a diagnosis of exclusion.⁴ Functional dyspepsia (Idiopathic or non ulcer dyspepsia) constitutes a tremendous workload in primary care.¹ Functional dyspepsia (FD) is defined as "persistent or recurrent pain or

discomfort characterized by bothersome postprandial fullness, early satiety, epigastric pain and burning in gastroduodenal region for a minimum of 12 weeks in past 6 months before diagnosis with at least one day per week or more in absence of clinical, biochemical, endoscopic, and ultrasonographic evidence of organic disease that would account for the symptoms".⁵ It is a common health and social problem⁶ with frequency lying between 8%-23% in Asia.⁷ In another study conducted in various regions of Asia (China, Hong Kong, Indonesia, Korea, Malaysia, Singapore, Taiwan, Thailand and Vietnam), forty three percent had FD after confirmation.⁸ Majority patients are treated exclusively in primary care² where strategies are patient centered and symptom based.⁹ Uncertainty in

diagnosis barricades from procuring optimal treatment¹⁰ hence management strategies vary among general practitioners¹¹. Inadequate management concerning functional dyspepsia has been demonstrated by earlier studies in Scandinavian countries with GPs prescribing empirical therapy to 90% dyspeptic patients without confirmatory investigations.⁹ Analogous findings were seen In Germany 22% GPs used inadequate regimens¹² whereas 59% in Ireland¹³ and 20% in Scotland were seen with similar practices¹⁴.

Not only does dyspepsia management in primary care vary from the patients treated in hospitals¹ extensive differences are seen in clinical diagnosis and management when inter GP practices are compared in patients with similar symptoms¹¹. Although rarely fatal its intermittent, recurrent nature⁴ high prevalence with costly management¹⁵ and sufferers generating a substantial workload on GPs⁴ hence should be dealt effectively and efficiently.¹⁵ Most primary care practitioners fail to acquiesce with guidelines and therefore expedient practices are compromised when managing dyspepsia patients.¹⁶ This lack of unanimity among GPs regarding functional dyspepsia management represents a snag.¹⁶ The colossal burden of functional dyspepsia² with its high population prevalence⁷ and hefty impairment on quality of life⁵ imposes a protracted burden on healthcare services and society.³ Keeping in view the direct, indirect and intangible costs for dyspepsia which are higher in Asia⁶, its chronic relapsing nature, lack of effective therapy for control of symptoms⁵ along with paucity of data and scarcity of such studies in our part of the world we sought to identify and glean the variations in knowledge of general practitioners regarding functional dyspepsia so that evidence and practice gap may be bridged and deficient areas in GP practice can be targeted for countering the incommensurate measures taken by GPs.

METHODS

It was a Cross sectional study conducted in 2016 in all the 18 towns of Karachi. The target population was general practitioners. A sample of n=267 general practitioners was calculated at 95% confidence level based on 50% proportion and 6% margin of error. Multistage sampling technique was used. In the first stage two Union Councils were selected randomly from each town. The list of General Practitioners practicing in the selected union council was acquired from the PMA House and from every town 7-8 general practitioners were selected through convenience sampling technique. The inclusion criteria were general practitioners of both genders having an MBBS degree with at least 3 years experience and seeing at least 20 patients per day.

Proforma was developed through literature review.

It was divided into two parts: demographic profile of the participant and knowledge and practice portion related to functional dyspepsia. It was reviewed by a Family physician and Gastroenterologist and their comments were incorporated. Data was collected by primary investigators themselves. The purpose of study was explained to the participants and they were informed that the data will not be used for any other purpose. While filling the questionnaires participants were not allowed to consult books or access the internet. Written consent was taken and anonymity of the participants was maintained throughout the study.

Data was entered on Statistical Package of Social Sciences (SPSS) version 20. Mean and standard deviation was calculated for numerical variables like age and number of patients. Frequencies and percentages were calculated for categorical variables like years of experience, knowledge and practice.

RESULTS

The total number of participants incorporated in the final study were n=250 after removal of incompletely filled questionnaires. The mean age of the participants was 47+/- 16 years. Out of the total participants, n=79 (31.6%) were females and remaining n=171 (68.4%) were males. Out of the total participants, n=171 (68.4%) had only basic MBBS degree. While n=56 (31.6%) had MBBS with a postgraduate degree. Twelve doctors (21.4%) had Diploma in Family Medicine while remaining n=44 (78.6%) had other relevant degrees. Work experience of participants showed that n=118 (47.2%) had greater than 5 years of working experience, n=70 (28%) had between 2-5 years of working experience and remaining n=62 (24.8%) had less than 2 years of working experience. When the participants were inquired about their average daily OPD, n= 46 (18.4%) were seeing more than 50 patients daily. More than half of the participants n=138 (55.2%) were seeing 20-30 patients daily while n=66 (26.4%) general practitioners were seeing 30-50 patients daily.

When dyspeptic patient turnover was inquired majority doctors n=105 (42%) were seeing 3 and more patients of dyspepsia daily in their OPDs. While n=83 (33%) general practitioners were seeing 2-3 patients daily and lesser number of doctors n=62 (25%) were treating around 1 patient daily with dyspepsia. When the knowledge regarding the definition of functional dyspepsia was assessed, tragically only n=44 (17.6%) were able to define it correctly. About the guidelines only n=2 (1%) correctly knew that these are the Rome III diagnostic guidelines. Knowledge regarding subcategories of functional dyspepsia is demonstrated in Table 1. Regarding the knowledge related to the age group

in which functional dyspepsia is more common, majority n=134 (54%) replied correctly that FD is more prevalent in young to middle age group. Knowledge regarding gender was also correct as majority n=176 (70.4%) affirmed that females tend to suffer more from functional dyspepsia. Interestingly very few general practitioners correctly identified the diagnostic criteria for functional disorder. Only n=38 (15.2%) and n=37 (14.8%) were able to identify bothersome postprandial fullness and early satiety as two main symptoms which are occurring several times a week as the diagnostic criteria (Table 2).

Similarly only one quarter n= 62 (25%) general practitioners were able to correctly identify Epigastric pain in functional dyspepsia. When knowledge regarding the differential diagnosis of functional dyspepsia was assessed, only GERD n=112 (45%) and Peptic Ulcer Disease n=108 (43%) were affirmed by majority while knowledge regarding the other differential diagnosis remained vague as shown in Figure 1. The drugs identified by General Practitioners that can cause dyspepsia were NSAIDs n=54 (21.6%), bisphosphonates n=85 (34%), iron supplement n=32 (12.8%) and chemo prophylactic agents n=56 (22.4%).

When knowledge regarding treatment duration of dyspepsia before undergoing investigation was assessed, general practitioners gave a mixed response. Only n=93 (37%) identified correctly between 6-8 weeks. According to the majority general practitioners, urgent diagnosis is required when patients complain of nausea n=164 (66%) and loss of weight n=172 (69%). Only two alarm signs for functional dyspepsia were correctly identified by majority general practitioners, Family history of GI Cancer n=158 (63%) and GI blood loss n=114 (46%).

Table 1: Frequency of Participants having correct knowledge regarding subcategories of Functional dyspepsia

	n	%
Postprandial distress syndrome	17	6.8
Post-traumatic stress syndrome	18	7.2
Functional intestinal syndrome	53	21.2
Functional gastric syndrome	121	48.4
Epigastric pain syndrome	41	16.4

Table 2: Frequency of Participants having correct knowledge regarding the diagnostic criteria of Functional dyspepsia

	n	%
Bothersome postprandial fullness	38	15.2
Postprandial nausea	55	22.0
Upper abdominal bloating	84	33.6
Excessive belching	36	14.4
Early satiety that prevents having a full meal	37	14.8

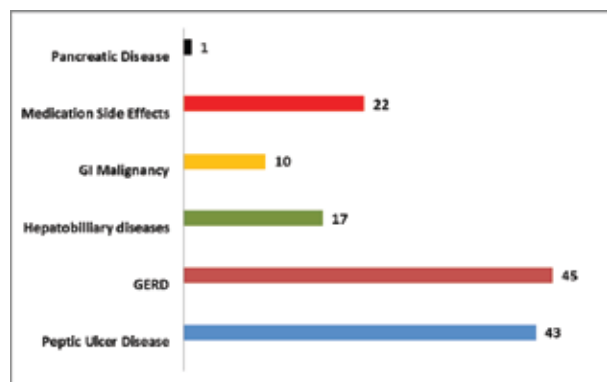


Figure 1: Percentage of Participants having correct knowledge regarding the differential diagnosis of Functional dyspepsia

DISCUSSION

Studies among Asian regions have demonstrated diagnosis of FD by merely thirty-three percent of General Practitioners. Only forty percent of these GP's knew about FD and even less than that had heard about the Rome criteria.¹⁰ Similar to other studies, our results displayed that most practitioners were unaware of the definition of dyspepsia in its true sense. A very negligible number of practitioners knew about the latest Rome guidelines regarding functional dyspepsia. It has also been seen that guidelines causing termination of developed clinical behavior pose a difficulty in compliance rather than those suggesting adding a new behavior.¹⁷ In order to change practice, consensus recommendations or clinical guidelines must strive to give a scientifically based, clinically relevant message, and succeed in getting that message across to the

appropriate audience, who in turn must be willing and able to act on it.¹⁷ Our study demonstrated functional dyspepsia common in age group 35-53 years as responded by majority of practitioners. Most studies conducted in Asia till dates have been unable to affiliate FD with any particular age range.⁷ Another study based on endoscopy conducted in Peshawar showed the mean age of adult patients as 43.5 years \pm 15.6 years¹⁸. Based on the knowledge of practitioners, females have more FD compared to males. Numerous population based studies in Asia have elucidated that FD frequency was unrelated to gender except for one Japanese study that showed male dominance.¹⁹

Our study showed that only a quarter of the practitioners were clear with the diagnostic criteria of FD. This is worrisome as studies have shown that FD diagnosis relies on symptoms without performing endoscopy.²⁰ Overlapping symptoms of FD, Inflammatory Bowel Syndrome and Reflux disease is common in Asia.⁷ Our results also displayed variation in treatment duration of practitioners. In FD, evidence is quite vague as there is wide variation in treatment strategies.¹¹ Treatment models from USA included "test and treat" pursued by endoscopy in failure cases, however, the UK model differed in that PPI treatment would precede endoscopy referral. Analysis based on USA studies demonstrates that PPI trial before endoscopy is more cost effective.²¹ According to a Meta analysis PPI regimen stands more effective for FD patients compared to testing and treating of H pylori.²² According to studies many GP's prescribe empirical therapy without going for confirmation and only 10% patients are referred for endoscopy.⁹ These differences have been observed among different specialties and in newcomers as well as experts. Even after the given evidence, practitioners perceive that decisions regarding FD management in fellow workers would be similar to them and believe there is uniformity in their practices.²³ Patients coming to primary health care with functional GI disorders are different from the ones in hospitals while GP's and specialists working in hospitals may differ in their opinion.¹ The intricacy involved with epidemiological studies of functional dyspepsia is that FD is basically a diagnosis of exclusion after endoscopy.¹² Based on Meta-analysis from FD patients, the most successful management is H Pylori eradication whereas Randomized Controlled Trials document that H Pylori treatment is not beneficial.²⁴ Knowledge was vague in our study regarding the alarm signs of Dyspepsia. Being indecisive regarding diagnosis may progress towards ambiguous decisions concerning the best alternative treatment.²⁵ In dyspepsia, lack of unanimity about treatment presents a byzantine situation, as does the prescription of powerful and expensive drugs for relief of symptoms alone.²⁶

Quality in health care banks on two key factors;

quality of decisions and the judgment regarding measures to be taken along with the quality of execution.²⁷ FD although non fatal clearly attenuates patients' life quality and serves as a considerable financial load on the healthcare system due to regular clinical consultations, medication and time off work. It is a significant burden on society due to utilization of health care services, reduced productivity and absenteeism from work.²⁸

Our study had few limitations. One that practitioner's response may not reflect their actual decision while practically handling the patients. The most accurate methodology for judging patient care comes when direct interaction of patients with practitioners is observed. But this method has its limitations due to Hawthorne effect where practitioners vary their management keeping in view that they are being observed. We pursued numerous steps to guarantee validity of content including consultation with key practitioners in FD, formal assessment by proficient personnel in constructing this questionnaire along with pilot trial of questionnaire for clarity. Multi factorial interventions should be executed for making certain that latest FD guidelines are followed by paying accent to areas pointed in this research.¹ One way of improvement would be to utilize pharmaceuticals to instruct practitioners regarding drugs proven to be efficient, connecting them to information present in medical literature. Studies have elucidated that in-person education displayed improvement in accurateness of prescriptions including prescription of antibiotics.²⁹ However, as observed in past endeavors, to apply proof based only on guidelines, can be unsuccessful for altering treatment tactics. Mixture of methods needs to be incorporated if we aspire to observe stable changes in practice.³⁰ It is of paramount significance that possible barricades are recognized and practitioners approve and sustain guidelines for execution. Further differences in the community should be analyzed and practitioners dealing with GI patients should be trained accordingly. Our data may endow researchers and policy formulators to establish quality improvement measures focused on minimizing alterations in usage of resources, narrowing practitioners to best decisions, augmenting care and leading to cost effectiveness.

CONCLUSION

Our study illustrated dilemmas and discrepancies in approaches for treatment of Functional Dyspepsia, rather than marking out a singular pathway. In conclusion, our study gives support to literature that despite consensus on treatment, practitioners vary in their judgment for optimal treatment. Researchers should pave the way for making this scientific proof understandable and correspond to practitioners in a manner that they are able to under-

stand and implement this in their clinical practice. Scientific evidence translates to evidence based care and improvement of patient's health along with cost effectiveness.

REFERENCES

- Gladman LM, Gorard DA. General practitioner and hospital specialist attitudes to functional gastrointestinal disorders. *Alimentary pharmacology & therapeutics*. 2003 1;17(5):651-4.
- Thompson WG, Heaton KW, Smyth GT, Smyth C. Irritable bowel syndrome in general practice: prevalence, characteristics, and referral. *Gut* 2000; 46: 78-82
- Bitwayiki R, Orikiiriza JT, Kateera F, Bihizimana P, Karenzi B, Kyamanywa P, Walker TD. Dyspepsia prevalence and impact on quality of life among Rwandan healthcare workers: A cross-sectional survey. *SAMJ: South African Medical Journal*. 2015; 105(12):1064-9.
- Baker G, Fraser RJ, Young G. Subtypes of functional dyspepsia. *World J Gastroenterol* 2006; 12(17): 2667-2671
- Tack J, Talley NJ, Camilleri M, et al. Functional gastroduodenal disorders. *Gastroenterology* 2006; 130: 1466-79.
- El-Serag HB, Talley NJ. Health-related quality of life in functional dyspepsia. *Aliment Pharmacol Ther* 2003; 18:387-393.
- Ghoshal UC, Singh R, Chang FY, Hou X, Benjamin Chun Yu Wong UK, Motility Association. Epidemiology of uninvestigated and functional dyspepsia in Asia: facts and fiction. *J Neurogastroenterol Motil*. 2011 31;17(3):235-44.
- Kwan AC, Bao TN, Chakkaphak S, et al. Validation of Rome II criteria for functional gastrointestinal disorders by factor analysis of symptoms in Asian patient sample. *J Gastroenterol Hepatol* 2003;18: 796-802.
- Heikkinen M, Pikkarainen P, Takala J, Julkunen R. General practitioners' approach to dyspepsia. survey of consultation frequencies, treatment, and investigations. *Scand J Gastroenterol* 1996; 31:648-53
- Miura S, Sugano K, Kinoshita Y, Fock KM, Goh KL, Gibson P, Asian-Pacific Topic Conference organized by Japanese Society of Gastroenterology and Asian Pacific Association of Gastroenterology: Diagnosis and treatment of functional gastrointestinal disorders in the Asia-Pacific region: a survey of current practices. *J Gastroenterol Hepatol* 2011, 26(3):2-11
- Moayyedi P, Soo S, Deeks J, Forman D, Mason J, Innes M, Delaney B: Systematic review and economic evaluation of Helicobacter pylori eradication treatment for non-ulcer dyspepsia. *Dyspepsia Review Group*. *BMJ* 2000, 321:659-664.
- Breuer T, Sudhop T, Goodman KJ, Graham DY, Malfertheiner P. How do practicing clinicians manage Helicobacter pylori related gastrointestinal diseases in Germany? A survey of gastroenterologists and family practitioners. *Helicobacter* 1998; 3: 1-8.
- Heaney A, Collins JSA, Watson RGP, Kalin RM. General practitioners' habits and knowledge in relation to the management of H. pylori-associated dyspepsia and their views about a locally available 13-carbon urea breath test. *Br J General Pract* 2000; 50:221-2.
- Coghlan JG, Gilligan D, Humphries H, et al. *Campylobacter pylori* and recurrence of duodenal ulcers ± a 12-month followup study. *Lancet* 1987; ii: 1109-11.
- Duggan AE, Elliott CA, Miller P, Hawkey CJ, Logan RF. Clinical trial: a randomized trial of early endoscopy, Helicobacter pylori testing and empirical therapy for the management of dyspepsia in primary care. *Alimentary pharmacology & therapeutics*. 2009 1;29(1):55-68.
- Chey WD, Inadomi JM, Boohar AM, Sharma VK, Fendrick AM, Howden CW. Primary-care physicians' perceptions and practices on the management of GERD: results of a national survey. *Am J Gastroenterol* 2005; 100: 1237-42.
- Cabana MD, Rand CS, Powe NR, et al. Why don't physicians follow clinical practice guidelines? A framework for improvement. *J Am Med Assoc* 1999; 282: 1458-62
- Haider I, Bangash MH, Faheem M, Ahmad I. ENDOSCOPIC FINDINGS IN 100 PATIENTS PRESENTING WITH DYSPEPSIA. *Journal of Postgraduate Medical Institute (Peshawar-Pakistan)*. 2011 16;23(3).
- Kawamura A, Adachi K, Takashima T, et al. Prevalence of functional dyspepsia and its relationship with Helicobacter pylori infection in a Japanese population. *J Gastroenterol Hepatol* 2001;16:384-388
- Boyce PM, Talley NJ, Burke C, et al. Epidemiology of the functional gastrointestinal disorders diagnosed according to the Rome II criteria: an Australian population-based study. *Intern Med J* 2006;36:28-36.
- Delaney BC. Dyspepsia management in the millennium: to test and treat or not? *Gut*. 2003 Jan 1;52(1):10-1.
- Spiegel BM, Tan J, Lim B, Farid M, Singh I, van Oijen MG. Incident dyspepsia in the treatment of peptic ulcer disease: a meta-analysis comparing H. Pylori eradication versus proton pump inhibitor therapy. *Gastroenterology* 2005; 130: 1072
- Wigton RS: Applications of judgment analysis and cognitive feedback to medicine. In *Human judgment*. The SJT view Edited by: Brehmer B, Joyce CRB. Amsterdam: Elsevier Science Publishers BV;1988:227-245
- Talley NJ, Vakil N, Ballard ED 2nd, Fennerty MB: Absence of benefit of eradicating Helicobacter pylori in patients with nonulcer dyspepsia. *N Engl J Med* 1999, 341:1106-1111
- Wu JC, Chan FK, Wong SK, Lee YT, Leung WK, Sung JJ: Effect of helicobacter pylori eradication on oesophageal acid exposure in patients with reflux

oesophagitis. *Aliment Pharmacol Ther* 2002; 16:545-552

26. Hungin AP, Rubin GP, Russell AJ, Convery B. Guidelines for dyspepsia management in general practice using focus groups. *Br J Gen Pract*. 1997 1; 47(418):275-9.

27. Eddy DM: Variations in clinician practice: the role of uncertainty. In *Professional judgement. A reader in clinical decision making* Edited by: Dowie J, Elstein A. Cambridge: University Press; 1996:45-59.

28. Lu CL, Lang HC, Chang FY, et al. Prevalence and

health/social impacts of functional dyspepsia in Taiwan: a study based on the Rome criteria questionnaire survey assisted by endoscopic exclusion among a physical check-up population. *Scand J Gastroenterol* 2005; 40:402- 411.

29. Avorn JJ, Soumerai SB. Improving drug-therapy decisions through educational outreach. A randomized controlled trial of academically based 'detailing'. *N Engl J Med* 1983; 308:1457-63.

30. Greco PJ, Eisenberg JM: Changing physicians' practice. *N Engl J Med* 1993, 329:1271-1274

