International Journal of Medical and Health Research
ISSN: 2454-9142
www.medicalsciencejournal.com
Volume 4; Issue 8; August 2018; Page No. 164-167

Negative impacts of the upper gastrointestinal diseases among general populations and its prevalence: A review article

Mohammed Alsalmi[1*], Aliya Ragaban[2], Kawthar Bokari[3], Ahmed Aljohani[4], Meshael Almatari[5], Saleh Alghamdi[6]
[1] King Saud Bin Abdulaziz University for Health Sciences, Jeddah, Saudi Arabia
[2] King Abdulaziz University, Jeddah, Saudi Arabia
[3] Taif University, Taif, Saudi Arabia
[4] Taibah University, Madinah, Saudi Arabia
[5] Ibn Sina National College, Jeddah, Saudi Arabia
[6] Albaha University, Albaha, Saudi Arabia

Abstract
Over the last decades important risk factors for gastrointestinal symptoms have shifted, which may have changed its population prevalence. The aim of this study was to evaluate the current predominance of gastrointestinal symptoms, evaluate related factors and assess health-related quality of life in the general population. A systematic review was undertaken of all studies published as of December 1997, on the population prevalence of upper gastrointestinal (GI) symptoms. Studies and papers excluded from consideration were those done on subjects attending hospital or primary care clinics, or who were hospitalized or institutionalized; or where studies were conducted in the workplace or on occupational groups. Studies meeting the following criteria were included in the comparative analysis: period studied, sample size and response rate all reported; vague terms such as 'dyspepsia' or 'indigestion' defined if enquired about; abdominal pain or discomfort enquired about; patients with a history, or evidence, of organic disease not excluded from the results. Follow-up studies on groups of patients previously studied were also not included. In the 10 selected studies, the reported prevalence of upper abdominal symptoms (mostly upper abdominal pain or discomfort) ranged from around 8% to 54%, while the prevalence of heartburn and/or regurgitation ranged from 10% to 48% for heartburn, from 9% to 45% for regurgitation and 21% to 59% for both/either. In the case of upper abdominal symptoms, the most likely explanation for the broad range of prevalence reported is variation in the definition of symptoms. In the case of heartburn and regurgitation, different understandings of these terms by different investigators and subjects may have contributed to the range of results. Symptom definitions and what is understood by them should be among the most important considerations when undertaking population prevalence studies on upper GI symptoms, to allow comparisons to be generated between studies.

Keywords: gastrointestinal symptoms, dyspepsia, gastro-esophageal reflux disease, non-ulcer dyspepsia, peptic ulcer

Introduction
Gastrointestinal diseases refer to symptoms involving the diseases of gastrointestinal tract, namely the stomach, esophagus, small intestine, large intestine, and the accessory organs of digestion, the liver, gallbladder, and pancreas. Gastrointestinal symptoms are highly prevalent in the general population and are considered as the main cause of general practitioner [1]. Unfortunately, Individuals with gastrointestinal symptoms heavily contribute to healthcare utilization and budgeting. The costs for individual patients with gastrointestinal symptoms are high. For example, in the United States average direct healthcare costs for a number of symptoms such as constipation ($7522), functional abdominal pain ($7646) and irritable bowel syndrome ($5049) are considerable [2].

Large population studies in Western countries reported a widely ranging prevalence of dyspepsia from 10% to more than 50% [3]. However, these studies were performed about 20 years ago and the risk factor profile for gastrointestinal symptoms has changed since. For example, the incidence of *Helicobacter pylori* has rapidly decreased in the industrialized world [1, 3], while use of proton pump inhibitors (PPIs) has been on the rise. Simultaneously, use of gastro toxic medication, e.g. non-steroidal anti-inflammatory drugs (NSAIDs) and low-dose aspirin, is high [4]. Finally, there is a global epidemic of obesity, which is associated with gastrointestinal symptoms and disorders, especially gastro esophageal reflux disease (GERD) [5]. The overall prevalence of upper gastrointestinal symptoms ranged from 24% to 45% in a recent study in 13 European countries [3, 5]. Although performed in the current era, this study emphasized on socioeconomic factors, and did not report associations between gastrointestinal symptoms and modifiable factors such as BMI and smoking on an individual level [6].

Health-related quality of life is an important parameter in modern medicine and refers to the extent that an individual's physical, emotional and social well-being is affected by a medical condition and its treatment. Individuals with gastrointestinal symptoms report a lower health-related quality of life [7], but this has been mainly studied in a subgroup of patients that have presented to a healthcare provider, which may not be a representative group. In general population, the

exact impact of gastrointestinal symptoms on all domains of health related quality of life including non-healthcare visiting-population remains unclear. Recently, new data on the prevalence of gastrointestinal symptoms in the general population are warranted. We hypothesize that the prevalence, despite all changes, has remained stable. The aims of our study were to assess: 1) the prevalence of gastrointestinal symptoms in the general population; 2) factors associated with presence of gastrointestinal symptoms; and 3) the effect of gastrointestinal symptom presence on health-related quality of life.

The term "dyspepsia" is nonspecific and refers to many symptoms encountered in clinical practice. Dyspepsia has been defined as "persistent or recurrent abdominal pain or abdominal discomfort centered in the upper abdomen", and generally refers to symptoms related to the upper gastrointestinal (GI) tract. Functional dyspepsia more specifically designates dyspeptic symptoms for which there are no identifiable structural or biochemical explanation (s). The prevalence of dyspepsia in the general population has been variously reported to range from 19% to 41% in adults [8]. Although sparse data have been gathered in other countries, specific data on these symptoms in the General population are lacking. Thus, the present study is the first to examine the prevalence of upper gastrointestinal symptoms at a national level in a North American population [9]. Although dyspepsia is common, a minority of dyspeptics requires medical care. As many as 50% of all patients with chronic or recurrent dyspeptic symptoms who are investigated will be diagnosed as having functional dyspepsia [10]. Because functional dyspepsia is neither life threatening nor associated with a risk of serious complications, it is often dismissed as a minor problem. However, the economic and societal costs of dyspeptic symptoms, through consequences such as absenteeism and consumption of health care resources, have been shown to be considerable [11]. Furthermore, in people with upper GI symptoms, a substantial decrease in quality-of-life has been demonstrated. We know very little of the impact of upper GI symptoms in the general population, as there are no data available. In contrast, most of the data presently available are instead typically obtained via the somewhat rarefied environment of interventional clinical trials. The Domestic/International Gastroenterology Surveillance Study (DIGEST) was de-signed and implemented to obtain accurate and comparable data on the prevalence of upper GI symptoms in the general population of several North American, European, and Asian countries. In addition, it was designed to provide data on the psychosocial and economic impacts of upper GI symptoms [12]. In Canada, The DIGEST examined the prevalence and the impact of upper GI symptoms in 1036 subjects in all regions of the country [13]. The General findings from the DIGEST provide new and unique information on the prevalence and impact of upper GI symptoms in the General population, and increase our understanding and quantification of the impact of upper GI symptoms from the hitherto neglected but important perspective of the general population [14].

Discussion

we found that 26% of the general population reported gastrointestinal symptoms, with a median duration of eight years. Our study identifies female gender, asthma/COPD, use of paracetamol, antidepressants and acid suppressive medication use as risk factors that were independently associated with a higher prevalence of gastrointestinal symptoms. Older age use protected against gastrointestinal symptoms. Respondents with gastrointestinal symptoms had an impaired health-related quality of life. In comparison to other, older, studies in the field [1, 2, 3], we found a similar prevalence of gastrointestinal symptoms in the community. This suggests that the effect of time is limited, although there are a plethora of differences between our study and others, most importantly the definitions used to assess prevalence of gastrointestinal symptoms. The present study is the first to provide such exhaustive data on the prevalence and impact of upper GI symptoms in the general general population. Comparisons between the demographics of the present population sample and comparative data available from the most recent general census show that the present sample is indeed closely representative of the general General population. Furthermore, the PGWBI sub scores and overall index of the sample were similar to the population used in the original validation of the instrument [22]. Any self-selection of those with poorer health should be reflected in well-being scores and other parameters such as income and age that usually correlate with health status. The present study examines self-reported symptoms. Respondents were asked about specific symptoms thought the characteristic of dyspepsia and other upper GI disorders. Terms such as "ulcer" and "dysmotility" are used to group and categorize specific symptoms along generally used clinical categories. However, when using such an approach, it is important to stress that those assumptions cannot be made about diagnosis in individual subjects or about responsible pathogenic mechanism (s) [7]. In fact, substantial symptom overlap among subgroups has been shown. Thus, although classification based on symptoms alone may not be useful in the management of patients, it may still provide a useful tool in the context of large population studies such as this one [2, 3]. Given their high prevalence, upper GI symptoms may have a significant socioeconomic impact. Based on the findings of the present study, as much as 29% of the General population experiences substantial upper GI symptoms, with these symptoms being chronically present in 15% of the population. Both direct and indirect costs, whether attributed entirely too upper GI symptoms or not, appear to be much higher in patients with chronic GI symptoms. These findings are in agreement with those of Drossman *et al*. [12], who also reported that subjects with GI symptoms exhibit a greater use of health care resources, and a greater tendency to report these symptoms. The decrements in quality-of-life as measured by the PGWBI are compelling in subjects with chronic upper GI symptoms. The sentiment that the impact of functional GI symptoms is trivial and has no important adverse effect on the overall quality-of-life of those affected is apparently Incorrect and needs to be addressed. The PGWBI score sallow us to compare the effects of chronic upper GI symptoms on quality-

of-life measures with those measured using similar instruments in other medical conditions where the impact of the condition is more readily accepted and recognized by health professionals. A PGWBI score of 75 for subjects with chronic GI symptoms is substantially lower than in individuals without symptoms, and is comparable to the scores obtained in subjects with migraines [13] and in postmenopausal women with climacteric symptoms [11, 12]. However, others studies have found that patients with mild to moderate hypertension, where quality-of-life is not expected to be affected because of the asymptomatic nature of the condition, have much higher PGWBI scores, showing that upper GI symptoms have more than a minimal impact [29, 30]. Previous studies have reported that effective treatment improves PGWBI scores in subjects with other GI symptoms [13]. However, the present study differs in that we used the sample frame of the general population and did not limit our sampling to patients already identified as having a GI illness. Yet, the use of a well-validated and widely applicable quality-of-life instrument such as the PGWBI provides very important information on the subjective effects of symptoms on the patient's well-being and the potential for benefit of treatment on these domains. The WorldHealth Organization defines health as "a state of complete physical, mental, and social well-being, not merely the absence of disease or infirmity" [13]. In this context, one should consider end-points such as the PGWBI in the assessment of patients with functional GI symptoms. The consistency of the population survey data obtained in the present study with those previously reported in patients enrolled in GI clinics is reassuring [13]. Only a proportion of subjects with substantial upper GI symptoms seeks medical attention for their symptoms. However, these subjects also are heavy consumers of prescription and nonprescription drugs. Differences in help-seeking behavior may not be explained entirely by differences in severity or frequency of symptoms or by the presence of other symptoms, as the present study may suggest but also stem from concerns about the possible seriousness of an undiagnosed illness that might be causing the symptoms [12]. Studying differences between consulters and no consulters would provide valuable information for optimizing use of resources in patients with upper GI symptoms and provide useful information to better address their specific concerns. Stress is believed to play an important role in functional GI disorders. In the present study, there was a much greater incidence of significant events among individuals with chronic upper GI symptoms than in subjects without symptoms. Tangen Haug *et al.* [13] also found this to be true in dyspepsia and proposed that the symptoms may be causally related to higher levels of anxiety, depression, and general psychopathology in these patients. We found a greater prevalence of upper GI symptoms in individuals with a low income, as did Drossman *et al.* [12], who have previously found a strong relationship between lower household income and greater reporting frequency for almost all the functional GI disorders they examined, including upper GI symptoms. In general, the lower the house-hold income, the greater the prevalence and the severity of symptoms.

Independent of income level, a lower educational level is also associated with a greater prevalence of upper GI symptoms, as were unemployment and housework (as opposed to paid employment outside the house).The large proportion of individuals with chronic upper GI symptoms reporting the need to avoid certain foods we found concurs with previous studies (34). Much smaller studies have reported a lack of association between caffeine and alcohol consumption and the occurrence of GI symptoms [13]. However, our own data suggest that heavier coffee consumption (.3 cups/day) increases the prevalence of GI symptoms whereas moderate alcohol and caffeine consumption may decrease the occurrence of upper GI symptoms. Interestingly, we also found that heavy cola intake ($5 glasses/day) is associated with a higher prevalence of upper GI symptoms, whereas moderate consumption seems to be protective. As most cola drinks also contain caffeine, this may be due to the latter. To our knowledge, this is the first report of an association between the ingestion of cola and the occurrence of upper GI symptoms, some-thing many clinicians have empirically long believed to be true. It is also possible that these data indicate total avoidance of these substances in individuals predisposed to upper GI symptoms. This would also lead to higher a prevalence of upper GI symptoms among nonusers (avoiders) and heavy users (causal). Heartburn and reflux are often believed to be more com-mon than dyspeptic symptoms. Our data suggest this is incorrect. Dysmotility-like symptoms appear to be the most common symptoms, whereas pure heartburn, in the absence of other nonacid-related symptoms (such as bloating, nausea, etc.), is less common. Therefore, treatment of gastro-esophageal acid reflux using H2receptor antagonists and proton pump inhibitors may not be completely effective in many heartburn patients, as most of these patients will also have symptoms (such as early satiety, bloating, or nausea)that are unlikely to respond to acid suppression. Our study indicates that upper GI symptoms are largely managed either by the patients themselves, or by primary care professionals. This suggests that the recruitment of subjects in future studies should aim at specifically targeting this population rather than patients from tertiary health care facilities, where referral bias and patient selection are likely to provide a very biased study population. In summary, this large epidemiological study, the first of its magnitude in Canada, provides compelling evidence of the very high prevalence of upper GI symptoms in the general population. For the most part, treatment of upper GI symptoms is presently based on the use of nonprescription medication, apparently with limited success. Upper GI symptoms remain largely undiagnosed and most patients have not seen a physician for these symptoms. Upper GI symptoms have a substantial impact on the quality-of-life, work, and daily activities of affected individuals. It has previously been suggested that considerable economic and societal gains might be obtained from even minor improvements in the treatment of these patients [11]. As many of these symptoms are associated with dietary or stress related factors, better recognition and management of these factors might play an important role in the management of these patients.

Conclusions

The upper GI tract is a common source of symptoms in humans. Prevalence of gastrointestinal symptoms in the general community is high and associated with decreased

health-related quality of life. Finally, some consideration must be given to alternative possible differential diagnoses, with heart disease perhaps being the most frequent and important non-GI diagnosis to consider.

References

1. Talley NJ, Zinsmeister AR, Schleck CD, Melton LJ. 3rd Dyspepsia and dyspepsia subgroups: a population-based study. Gastroenterology. 1992; 102:1259-1268.
2. Nyrop KA, Palsson OS, Levy RL, Korff MV, Feld AD, *et al*. Costs of health care for irritable bowel syndrome, chronic constipation, functional diarrhoea and functional abdominal pain. Aliment Pharmacol Ther. View Article Google Scholar. 2007; 26:237-248.
3. Jones RH, Lydeard SE, Hobbs FD, Kenkre JE, Williams EI, *et al*. Dyspepsia in England and Scotland. Gut View Article Google Scholar. 1990; 31:401-405.
4. Kay L, Jorgensen T. Epidemiology of upper dyspepsia in a random population. Prevalence, incidence, natural history, and risk factors. Scand J Gastroenterol View Article Google Scholar. 1994; 29:2-6.
5. Agreus L, Svardsudd K, Nyren O, Tibblin G. Irritable bowel syndrome and dyspepsia in the general population: overlap and lack of stability over time. Gastroenterology View Article Google Scholar. 1995; 109:671-680.
6. Bernersen B, Johnsen R, Straume B. Non-ulcer dyspepsia and peptic ulcer: the distribution in a population and their relation to risk factors. Gut View Article Google Scholar. 1996; 38:822-825.
7. Jones R, Lydeard S. Prevalence of symptoms of dyspepsia in the community. BMJ View Article Google Scholar. 1989; 298:30-32.
8. Penston JG, Pounder RE. A survey of dyspepsia in Great Britain. Aliment Pharmacol Ther View Article Google Scholar. 1996; 10:83-89.
9. Talley NJ, Zinsmeister AR, Schleck CD, Melton LJ. Smoking, alcohol, and analgesics in dyspepsia and among dyspepsia subgroups: lack of an association in a community. Gut. View Article Google Scholar. 1994; 35:619-624.
10. Holtmann G, Goebell H, Talley NJ. Dyspepsia in consulters and non-consulters: prevalence, health-care seeking behaviour and risk factors. European Journal of Gastroenterology & Hepatology. View Article Google Scholar. 1994; 6:917-924.
11. Shaib Y, El-Serag HB. The prevalence and risk factors of functional dyspepsia in a multiethnic population in the United States. Am J Gastroenterology View Article Google Scholar. 2004; 99:2210-2216.
12. El-Serag HB, Talley NJ. Systemic review: the prevalence and clinical course of functional dyspepsia. Aliment Pharmacol Ther View Article Google Scholar. 2004; 19:643-654.
13. Malfertheiner P, Megraud F, O'Morain C, Bazzoli F, El-Omar E, *et al*. Current concepts in the management of Helicobacter pylori infection: the Maastricht III Consensus Report. Gut View Article Google Scholar. 2007; 56:772-781.
14. Miendje Deyi VY, Vanderpas J, Bontems P, Van den Borre C, De Koster E, *et al*. Marching cohort of Helicobacter pylori infection over two decades (1988–2007): combined effects of secular trend and population migration. Epidemiol Infect. 2011; 139:572-580.