Investigating the leading reasons for primary health care encounters and its implications for health care in Trinidad and Tobago. A systematic review

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Abstract

This systematic review aims at offering a comparative analysis of the leading reasons for encounters (RFEs) of patients presenting to primary care facilities. A systemic search was carried out using MEDLINE/PUBMED, CINAHL, Google Scholar, LILACS, and PROQUEST to identify the studies relevant to RFEs in primary health care in June 2020. Fifteen studies met the eligibility criteria which included originality, published between 2015 and 2020, listed two to five RFEs at a primary health care facility, and included patients with acute and/or chronic conditions. The mean total RFEs recorded were 6753.07 (Standard deviation = 17446.38, 95% Confidence Interval $6,753.0667 \pm 8,829.088$ [$\pm 130.74\%$]). The most common RFE chapters recorded were Respiratory and Digestive chapters. The patients recorded fever as the most frequently reported RFE while cough was ranked as most common. The physicians reported hypertension as the most frequently reported and most common RFE. The most frequently physician and patient reported RFEs to the primary health care are hypertension and fever. Respiratory and Digestive were the most frequently reported chapters. The findings are useful for the proper implementation of services, facilities, and equipment utilized in Trinidad and Tobago primary health care.

Keywords: Clinic visit, primary health care, reasons for encounters, systematic review, Trinidad and Tobago

Introduction

Aims

This qualitative systematic review seeks to provide a global comparative analysis of the major reasons for encounters (RFEs) with patients presenting to primary care facilities.

Background and rationale

The reasons why patients visit primary health care facilities are critical to understanding the disease burden and identifying society's health care needs. This helps the policymakers plan health care services, design medical education curricula, and identify health research priorities relevant to the country's needs. Understanding the reasons for encounters can enhance the delivery of health care

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services, therefore, improving the patients' quality and outcome of care.[1] The primary care physicians can use these findings to formulate more targeted prevention campaigns and treatment interventions, thereby, increasing the standard of care.

Access to the literature regionally relative to the study is limited. 'Patient Satisfaction at Health Centers in Trinidad and Tobago' (1996) identifies the top five reasons for primary care visit as antenatal care (34.5%), hypertension (16.3%), diabetes (12.8%), hypertension and heart disease (11.0%), diabetes and hypertension (9.2%).[2] Thus, the primary goal of this systematic review was to provide a broad and current view of the use of primary care, to determine the most frequently reported RFEs, and to generate a list of the most common RFEs reported by patients and physicians.

Material and Methods

Ethics

This systematic review was approved by the University of the West Indies Ethics Committee on January 30, 2020. [Refer to Supplemental G]. Ref: CREC-SA.0093/11/2019.

Study Design

Study description

This study is a systematic review seeking to provide a global comparative analysis of the top RFEs presented by patients to primary health care (PHC) facilities. It was conducted as per the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA). The research problem 'What are the main reasons for the use of primary health care facilities?' was formulated using the patient/population, intervention, comparison and outcomes model (PICOS) model. The PRISMA 2020 checklist—PRISMA statement was used and a PRISMA 2020 flow diagram was constructed for the search strategy. Fifteen studies that met the inclusion criteria were incorporated. Based on the results of similar studies, it is expected that the top five RFEs will include hypertension, diabetes, blood pressure check-ups, family planning, and cancer screening.

Data sources

Five databases (MEDLINE/PUBMED, CINAHL, Google Scholar, LILACS, and PROQUEST) were searched in June 2020. A particular vocabulary including Medical Subject Headings (MeSH) and text words including all applicable synonyms focusing on "primary health care," "reasons for use of primary health care," "reasons for encounter," and "utilization of primary care" were utilized via the Boolean Search. [*Refer to Supplemental A for Database Search Strategy*].

Study selection

Studies were eligible if they were original, published between 2015 and 2020, conducted in a PHC setting, had a minimum outcome of two to five RFEs in a PHC facility, and included acute and chronic patients.

The studies were excluded if the publications were from the same source, were not in English, focused solely on mental health, substance abuse, and social issues, and published before 2015. Editorials were excluded.

One researcher screened abstracts of articles from the databases to ensure relevance to the research problem. Two researchers reviewed the full-text articles to ensure compatibility with the inclusion and exclusion criteria.

Three researchers extracted data which included RFEs at the PHC facility. The risk of bias and quality of each study was appraised using the Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies via a rating system.

Data analysis

All RFE were analyzed and recoded into international classification of primary care-2 (ICPC-2) classification. The data in the form of RFEs were categorized into the following three categories, according to the recorded data within the respective studies: RFE chapters, patient-reported RFEs, and physician-reported RFEs. The RFE chapters included RFEs that were reported as ICPC-2 chapters. The patient-reported RFEs were the patients' reasons for visiting a PHC facility and physician-reported RFEs included the diagnoses made by the physician. Thirteen studies were included within all three categories. The remaining two studies were not included in the data analysis but were still included in this systematic review as they provided relevant information.

The data were analyzed as the 'most frequently reported' and 'most commonly ranked.' 'Most frequently' reported the most frequent RFE without consideration of its rank. 'Most commonly' analyzed RFEs by both its frequency and rank. Furthermore, the frequency of RFEs reported was shown in the form of bar charts for each category. The RFE chapters were further analyzed separately under Physician- and Patient-reported RFEs [Refer to Supplemental E]. Lastly, patient-reported RFEs and Physician-reported RFEs were compared. The first six RFEs within each category were ranked to formulate a list of the most common RFEs.

Quality assessment

The quality was assessed with consideration of the risk of biases. The quality assessment tool, NIH Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies, was utilized. Each study was given a score out of 14. Higher scores indicated a higher quality and lower risk of bias. The PRISMA 2020 checklist was used to ensure the recommended criteria were met [Refer to Supplemental I for PRISMA 2020 Checklist].

Results

A total of 4,041 studies were identified; 3,822 were searched from databases and 219 from journal websites. A total of 3,882 studies were screened which resulted in 49 studies being assessed for
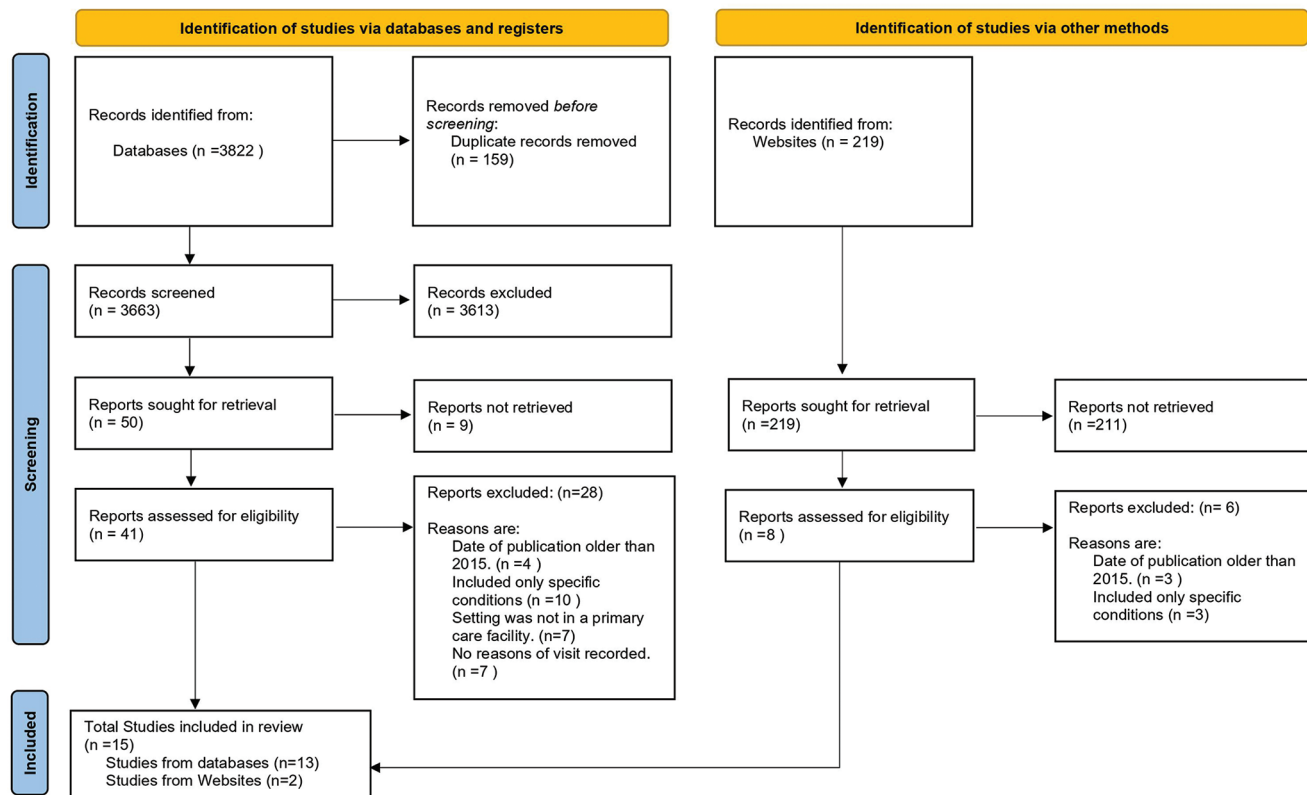
Figure 1: Prisma 2020 flow chart showing the study selection of the included studies in this systematic review

eligibility; 34 studies were excluded since they did not meet the inclusion criteria. Thus, 15 studies passed the eligibility criteria and were included see [Figure 1].

Treatment of Results

Study characteristics

The characteristics were compared for the 15 studies included in this review.

Table 1 data determined that 2017 was the most frequent year of publication for eligible studies. The included studies were cross-sectional studies conducted in a PHC setting and measured RFEs as part of the reported outcomes.

Most studies collected data from 2014 with the earliest period being 1999–2000 while the most recent was 2017. The duration of sampling ranged from 7 weeks to 1 year.

The sample sizes were conducted by measuring the total patient population, the total number of RFEs/diagnoses/processes, and/or total visits (by patients). The included studies utilized at least one sample size measurement, a combination of two, or all three.

The mean total patient population was 60720.93 (SD = 135673.88, 95% CI: 60,720.9333 ± 68,660.455 [± 113.08%]). The

highest total patient population was 5,07,934 whereas the lowest was 327 patients. The mean total RFEs was 6753.07 RFEs (SD = 17446.38, 95% CI: 6,753.0667 ± 8,829.088 [± 130.74%]), the highest total RFEs was 70,489 RFEs, and the lowest was 915 RFEs. Total diagnoses and total processes were reported along with total RFEs in the respective studies but were not reported in all the studies that included total RFEs. Therefore, for total diagnoses, only three studies included this sample population at 15,460, 546, and 2,023 diagnoses, respectively while for total processes, only one study reported 1,221 processes. The mean total visits were 56,583 visits (SD = 194389.58, 95% CI:.56,583 ± 98,374.699 [± 173.86%]), the highest total visits being 782,281, and the lowest 327 visits.

Ten studies included broad-age ranges while three studies contained specific age groups. Frese *et al.* 2016[5] were specific to the elderly, Meynard *et al.* 2015[7] were specific to the teenagers and young adults, and Nyundo *et al.* 2020[9] were specific to the young adults aged 18–24. Five studies included children within their sample population and no study was exclusive to children. Two studies did not state an age range but included the mean age.

All studies were rated out of 14 [Table 1] to determine the overall quality of each. The highest quality appraisal score was 12 and the lowest score was 7. The mean quality score was 10.26 (SD = 1.34, 95% CI: 10.2667 ± 0.678 [± 6.61%]).

Study	Years of Data Collection	Duration of Data Collection	Method of Data collection	Country of Origin	Total Patient Population	Total Number of RFEs*/ Diagnoses/Processes Recorded	Total Visits	Age Range	Quality Score (/14)
Adar *et al.* 2017[3]	August - November 2014	4 months	Analytical observational survey and questionnaire	Israel	327	N/A	327	18-50	11
Chueiri *et al.* 2020[4]	July - December 2016	N/A	Interviews and questionnaires	Brazil	6160	8046 RFEs	N/A	18+	12
Frese *et al.* 2016[5]	October, 1999 - September, 2000	1 year	Case recordings	Germany	2866	4426 RFEs	N/A	65+	9
Liu *et al.* 2017[6]	2014	N/A	Electronic Medical Records	China	N/A	13705 RFEs 15,460 Diagnoses	10,000	27-65	9
Meynard *et al.* 2015[7]	February 2009 - November 2010	N/A	Questionnaire	Switzerland	594	N/A	N/A	15-24	11
Molony *et al.* 2015[8]	October 2010 - October 2014	N/A	Electronic Medical Records	Ireland	5210	70,489 RFEs	52,572	0-80+	12
Nyundo *et al.* 2020[9]	August - October, 2014	3 month	Questionnaire	Kenya	628	N/A	715	18-24	9
Olagundoye *et al.* 2016[10]	2014	3 months	Patient Medical Records	Nigeria	N/A	915 RFEs 546 Diagnoses 1221 Processes	401	Mean Age: 39	9
Otovwe & Elizabeth. 2017[11]	N/A	N/A*	Semi Structured Questionnaire	Nigeria	340	N/A	N/A	15-74	11
Pati *et al.* 2017[12]	N/A	N/A	Interviews and questionnaires	India	1649	N/A	N/A	18-70+	10
Raknes & Hunskaar. 2017[13]	2014 and 2015	N/A	Electronic Medical Records	Norway	177,053	N/A	N/A	Mean Age: 36	11
Salvi *et al.* 2015[14]	2011	3 months	Questionnaire	India	204,912	N/A	N/A	0-60+	11
Seeger *et al.* 2019[15]	June- July 2017	N/A	Questionnaire	Germany	892	1112 RFEs	N/A	0-70+	11
Stegink *et al.* 2019[16]	2011	N/A	Electronic Medical Records	Scotland, UK	507,934	N/A	782,281	18-70+	11
Swain *et al.* 2017[17]	May - October 2014	7 weeks	Patient Medical Records	India	2249	2603 RFEs 2023 Symptoms & Diagnoses	2449	18-70+	7

N/A* - Not Available. RFEs*- Reasons for encounter.

The inconsistency in the quality score is related to the heterogeneity within the studies as the sample size, measurement of sample size, methods of data collection, years of data collection, and duration of data collection varied. Heterogeneity was observed within the reported outcomes since the total number of RFE classifications and age ranges in each study varied. Notwithstanding, homogeneity was observed as all the studies were consistently within a moderate-to-strong quality range, were of a cross-sectional study design, were conducted in primary care facilities, and reported RFEs.

Synthesis of evidence

The RFEs within the studies were grouped into three categories: RFE chapters, patient-reported RFEs, and physician-reported RFE. All RFEs were recoded using the ICPC-2 codes [refer to Supplemental D] and were analyzed by frequency among the 15 studies and by their ranking. None of the four categories contained all 15 studies, however, every study was represented in the results because each was featured in at least one category [refer to Supplemental B].

RFE chapters comprised ICPC-2 chapters of RFEs exclusively since seven studies already used this classification. Overall, 14 RFE chapters [Figure A1 - refer to Supplemental E] were reported. The respiratory and digestive chapters, present in all seven studies, were most frequently reported [Figure A1 - refer to Supplemental E], while general/unspecified was most frequently ranked the most common, despite being the third most frequently reported RFE chapter [Table A4 - refer to Supplemental E].

The following category is the patient-reported RFEs category. It included the first six RFEs that were reported by patients and was ranked from most to least common.

Overall, 41 patient-reported RFEs were found in 11 studies. Fever was the most frequently reported RFE, followed by cough. While pregnancy, health maintenance/prevention, abdominal pain, and chest pain general were third [Figure 2].

Patient-reported RFEs from the 11 studies were ranked from most to least common [Table A5 - refer to Supplemental E].
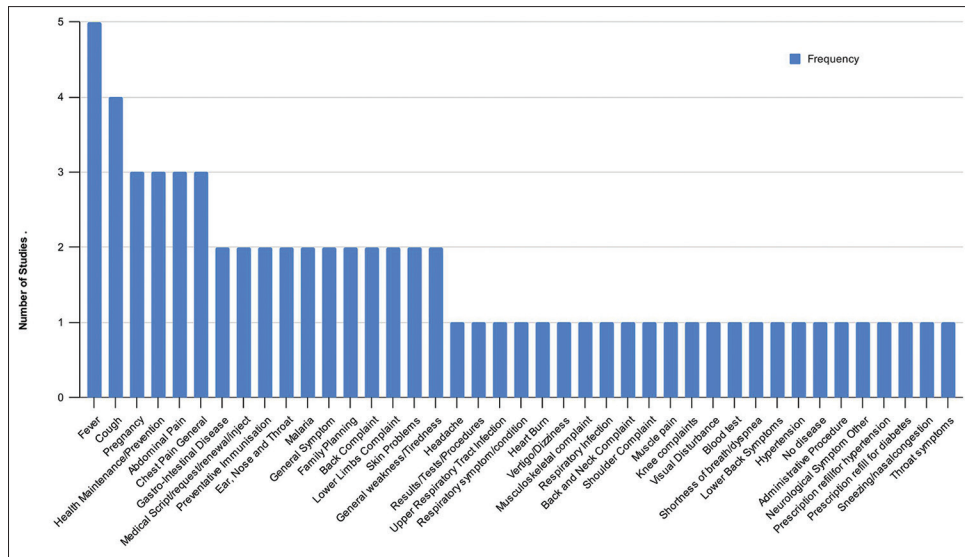
Figure 2: Bar chart displaying RFEs frequency as reported by patients
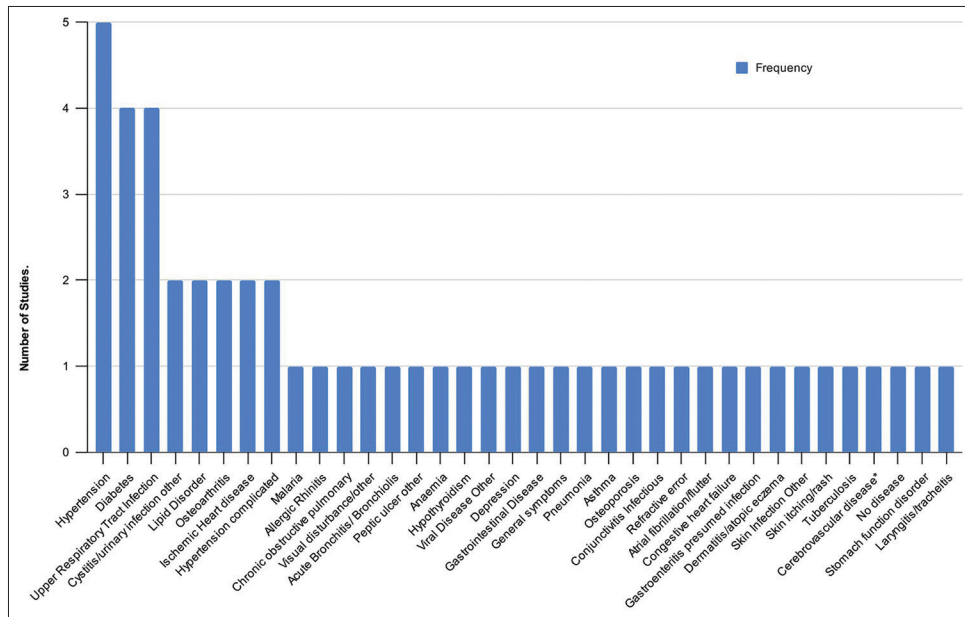

Figure 3: Bar Chart displaying the frequency of physician-reported RFEs in five studies

Cough, appearing in two studies, was most frequently ranked as the most common RFE. Fever although, most frequently reported, was ranked as most common in only one study.

Five studies contained RFEs in the Physician-reported RFEs category. The first ten physician-reported RFEs were compared and ranked from most common RFE to least common.

In all five studies, hypertension was the most frequently reported, followed by diabetes, and upper respiratory tract infection [Figure 3].

The first 10 physician-reported RFEs in each study were ranked from the most to least common [Table A6 - refer

to Supplemental E]. Hypertension was the most frequently reported RFE and the most often ranked as the most common in all five studies. Malaria was the only other physician-reported RFE ranked most common in its respective study.

Discussion

Summary of the review

Respiratory and digestive were the RFE chapters which were most frequently reported in this review, while general/unspecified chapters were ranked as the most common. Patients most frequently reported fever followed by cough while physicians most frequently reported hypertension, followed by diabetes and upper respiratory tract infection.

Strengths and limitations of the study and methodology

The main limitation to our study was a paucity of published literature that satisfied the inclusion criteria. Hence, we included studies from countries without universal health coverage, creating a lack of homogeneity.

Heterogeneity in the total number of RFEs precluded the formulation of a common RFE listing. Such a list would require consideration of the frequency of RFEs reported and their individual rankings within the studies. A table comparing the top RFEs of the five physician-reported studies and 11 patient-reported studies was generated. There is the possibility of selection bias due to the selective availability of published data in the studies included. This review derived strength from the comprehensive search strategy adopted for identification of the included studies and application of a robust method of evidence synthesis. This review compared the differences between the RFE data for clinicians versus patient-reported data and the ICPC-2 chapters commonly reported. Data on the leading RFEs can be used to improve health care services and outcomes.

Comparison with other studies

A comparative Danish study, showing change over 16 years in RFE, found that general (23.8%), musculoskeletal (14.3%), respiratory (9.9%), psychological (8.6%), and skin (8.3%) reasons generally did not change over this period and were still the most common reasons for visits.[18] Respiratory (23.9%), general/unspecified (21.8%), and skin (16.4%) reasons were also found to be the main RFEs in an Australian study.[19]

A systematic review in 2018 comparably determined that the most common RFEs were dominated by symptomatic conditions with cough being equivalently ranked the most common patient-reported RFE.[20] URTI and hypertension were ranked the two most common physician-reported RFEs. Similarly, in our review, patients reported symptomatic conditions like cough, fever, abdominal pain, general symptoms, and headache [refer to results- Table 2] most commonly. The physicians reported that hypertension was the most common diagnosis followed by diabetes and URTI [refer to results- Table 2]. Our data highlight that patients more commonly visit primary care for symptomatic reasons, while the diagnoses made are more commonly chronic non-communicable diseases.

Comparatively, a Canadian cross-sectional study examined the changes in the top 25 reasons for primary care visits during the COVID-19 pandemic.[21] It revealed that anxiety, diabetes, and hypertension remained the top three reasons for the visits both pre-pandemic and during the pandemic. These findings intersect with the top two physician-reported RFEs of hypertension and diabetes in this review, suggesting that non-communicable lifestyle diseases continue to make up a significant percentage of RFEs.

Implications of the review for research

Our findings indicate the need for more far-reaching PHC studies, as little literature exists on this topic within the Caribbean. Future research should aim to develop locally relevant, reliable criteria, and standards to compare performance to patient views and identify quality gaps. This review is narrative but a meta-analysis on this research scope would be essential to gaining a greater insight for effective policy changes and recommendations.

Implications for the health care system and policymaker

The top patient RFEs being URTIs and cold and flu is evidence of the need for more robust patient education on proper hand hygiene and seasonal flu vaccination which can decrease the burden on the health care system. The top physician-reported RFEs included non-communicable lifestyle diseases such as hypertension and diabetes. According to an article by the Trinidad Guardian entitled 'Govt spends millions to treat diabetics in T&T' (2018), the government spent "$296 million on diabetics in 2007."[22] A 2010 report by Dr Kenwyn Nicholls entitled "The Diabetes Epidemic in T&T" found that between 102,000 and 145,000 people were suffering from diabetes.

Table 2: Comparison of the ranking of the first 6 Patient Reported RFEs from 11 studies and Physician Reported RFEs from 5 studies showing only the first 10 RFEs.

RANK #	Patient Reported RFEs	AVERAGE RANK	Frequency in the 11 Studies (out of 11)	RANK #	Physican Reported RFEs	AVERAGE RANK	Frequency in the 5 Studies (out of 5)
1	Cough	2.09	4	1	Hypertension*	5.8	5
2	Fever	1.64	5	2	Diabetes	2.2	4
3	Medical Script/request/renewal/inject	1	2	3	Upper respiratory Tract Infection	2	4
3	Health maintenance/prevention	1	3	4	Hypertension complicated*	1.4	2
3	Gastro-intestinal disease	1	2	5	Malaria	1.2	1
4	Abdominal Pain	0.73	3	6	Allergic Rhinitis	1	1
4	Preventative Immunisation	0.73	2	6	Chronic obstructive pulmonary disease	1	1
4	Malaria	0.73	2	7	Visual disturbance/other	0.8	1
5	General symptom	0.64	2	7	Lipid Disorder	0.8	2
6	Headache	0.55	1	8	Acute Bronchitis/Bronchiolitis	0.6	1

Hypertension*- includes Hypertension complicated in Lui *et al.* 2017. K86/K87*- ICPC-2 code in Lui *et al.* 2017 included both Hypertension complicated and uncomplicated, however all other studies only coded for hypertension uncomplicated. Hypertension Complicated*- In addition to being reported in Olagundoye *et al.* 2016, both hypertension* and hypertension complicated were ranked together in Lui *et al.* 2017.

Additionally, Trinidad and Tobago are among the 11 caribbean community (CARICOM) nations with high rates of childhood obesity, with 24.9% of the children aged 5–19 being obese or overweight.[23] This reinforces the need for more aggressive prevention campaigns locally aimed at decreasing the prevalence as well as risk factors.

Moreover, primary care physicians are on the frontline of PHC. Patients' RFEs can influence their health-seeking behaviors. Therefore, understanding the most common RFEs allows the physician to better address and encourage patient compliance to manage these conditions.

Conclusion

This investigation of 15 cross-sectional sectional studies, comprising 11 countries, found several clinical presentations from different broad categories. In the categories mentioned, there was a significant overlap of specific conditions, prompting a thorough analysis of the individual categories. Respiratory and Digestive were the most frequently reported chapters. The physicians most frequently and commonly reported hypertension, whereas, the patients most frequently reported fever while cough was ranked the most common RFE. The study shows the need for focused investigations by primary care researchers into common conditions that burden the region. This study's findings are important in providing insight on the global comparative analysis of top RFEs presented by the patients to PHC facilities and should have implications for guidance on the equipment, services, and facilities utilized.

Recommendations

1. Trinidad and Tobago should heed Pan American Health Organization's (PAHO's) recommendations on the marketing of food and non-alcoholic beverages to children and implement formal laws prohibiting such advertisements.[24] Front-of-Package Warning Labeling Policy, Laws, and Regulations in the form of mandatory front-of-package nutritional warnings should be used to reduce the demand for and offer of processed and ultra-processed food products.[25]
2. Improve health education and disease prevention efforts by targeting preventable communicable and non-communicable diseases.
3. Commission further research to generate a locally relevant list of RFEs which can, in turn, influence policy decisions.

Key Points Summary

This systematic review examined the most common RFEs in PHC. The most common RFEs reported by patients were cough and fever while the most commonly reported RFEs by physicians were hypertension and diabetes. Understanding the most common RFEs is of great importance to the family physicians as it is a blueprint for acquiring the knowledge and skills required to treat the most common health concerns of their clientele.

Disclosures

Ethics

Ethical approval to conduct this study was obtained from the University of the West Indies Ethics Committee on January 30, 2020. [Refer to Supplemental G] Ref: CREC-SA.0093/11/2019.

Data availability statement

N/A.

Key messages

- The most common patient's RFEs were fever and cough.
- The most common RFEs reported by physicians were hypertension and diabetes.
- The patients visited primary health facilities for symptomatic reasons.
- Public education on healthy practices can mitigate the spread of common conditions.

Financial support and sponsorship

The study was funded by departmental resources.

Conflicts of interest

There are no conflicts of interest.

References

1. olde Hartman TC, van Ravesteijn H, Lucassen P, van Boven K, van Weel-Baumgarten E, van Weel C. Why the 'reason for encounter' should be incorporated in the analysis of outcome of care. Br J Gen Pract 2011;61:e839-41.
2. Singh H, Mustapha N, Haqq ED. Patient satisfaction at health centers in Trinidad and Tobago. Public Health 1996;110:251-5.
3. Adar T, Levkovich I, Castel OC, Karkabi K. Patient's utilization of primary care: A profile of clinical and administrative reasons for visits in Israel. J Prim Care Community Health 2017;8:221-7.
4. Chueiri PS, Gonçalves MR, Hauser L, Wollmann L, Mengue SS, Roman R, *et al.* Reasons for encounter in primary health care in Brazil. Fam Pract 2020;37:648-54.
5. Frese T, Mahlmeister J, Deutsch T, Sandholzer H. Reasons for elderly patients GP visits: Results of a cross-sectional study. Clin Interv Aging 2016;11:127-32.
6. Liu Y, Chen C, Jin G, Zhao Y, Chen L, Du J, Lu X. Reasons for encounter and health problems managed by general practitioners in the rural areas of Beijing, China: A cross-sectional study. PLoS One 2017;12:e0190036.
7. Meynard A, Broers B, Lefebvre D, Narring F, Haller DM. Reasons for encounter in young people consulting a family doctor in the French speaking part of Switzerland: A cross-sectional study. BMC Fam Pract 2015;16:159. doi: 10.1186/s12875-015-0375-x.
8. Molony D, Beame C, Behan W, Crowley J, Dennehy T, Quinlan M, *et al.* 70,489 primary care encounters:

Retrospective analysis of morbidity at a primary care center in Ireland. Ir J Med Sci 2016;185:805-11.

9. Nyundo C, Doyle AM, Walumbe D, Otiende M, Kinuthia M, Amadi D, *et al.* Linking health facility data from young adults aged 18-24 years to longitudinal demographic data: Experience from The Kilifi health and demographic surveillance system. Wellcome Open Res 2020;2:51.

10. Olagundoye OA, van Boven K, van Weel C. International classification of primary care-2 coding of primary care data at the general out-patients' clinic of General Hospital, Lagos, Nigeria. J Family Med Prim Care 2016;5:291-7.

11. Otovwe A, Elizabeth S. Utilization of primary health care services in Jaba Local Government Area of Kaduna State Nigeria. Ethiop J Health Sci 2017;27:339-50.

12. Pati S, Swain S, Metsemakers J, Knottnerus JA, van den Akker M. Pattern and severity of multimorbidity among patients attending primary care settings in Odisha, India. PLoS One 2017;12:e0183966.

13. Raknes G, Hunskaar S. Reasons for encounter by different levels of urgency in out-of-hours emergency primary health care in Norway: A cross-sectional study. BMC Emerg Med 2017;17:19.

14. Salvi S, Apte K, Madas S, Barne M, Chhowala S, Sethi T, *et al.* Symptoms and medical conditions in 204 912 patients visiting primary health care practitioners in India: A 1-day point prevalence study (the POSEIDON study). Lancet Glob Health 2015;3:e776-84.

15. Seeger I, Kreienmeyer L, Hoffmann F, Freitag MH. Cross-sectional study in an out-of-hours primary care center in northwestern Germany-patient characteristics and the urgency of their treatment. BMC Fam Pract 2019;20:41.

16. Stegink S, Elliott AM, Burton C. Statistical complexity of reasons for encounter in high users of out of hours primary care: Analysis of a national service. BMC Health Serv Res 2019;19:108.

17. Swain S, Pati S, Pati S. A chart review of morbidity patterns among adult patients attending primary care setting in urban Odisha, India: An international classification of primary care experience. J Family Med Prim Care 2017;6:316-22.

18. Moth G, Olesen F, Vedsted P. Reasons for encounter and disease patterns in Danish primary care: Changes over 16 years. Scand J Prim Health Care 2012;30:70-5.

19. Simon M, Henderson K, Tapley A, Scott J, Thomson A, Spike N, *et al.* Problems managed by Australian general practice trainees: Results from the ReCenT (Registrar clinical encounters in training) study. Educ Prim Care 2014;25:140-8.

20. Finley CR, Chan DS, Garrison S, Korownyk C, Kolber MR, Campbell S, *et al.* What are the most common conditions in primary care? Systematic review. Can Fam Physician 2018;64:832-40.

21. Stephenson E, Butt DA, Gronsbell J, Ji C, O'Neill B, Crampton N, *et al.* Changes in the top 25 reasons for primary care visits during the COVID-19 pandemic in a high-COVID region of Canada. PLoS One 2021;16:e0255992.

22. Paul, Anna-Lisa. Govt spends millions to treat diabetics in T&T. The Trinidad and Tobago Guardian. Nov 11, 2018. Available from: https://www.guardian.co.tt/news/govt-spends-millions-to-treat-diabetics-in-tt-6.2.711572.d81f490222.

23. Nicholls, K. The diabetes epidemic in Trinidad & Tobago: Attacking a burdensome disease with conventional weapons. White paper 2010. Available from: http://www.docs-archive.com/view/766d00e5c7c28db89294aa2d77764114/THE-DIABETES-EPIDEMIC-IN-TRINIDAD-%26-TOBAGO.pdf.

24. Pan American Health Organization (PAHO). Recommendations from a Pan American Health Organization Expert Consultation on the Marketing of Food and Non-Alcoholic Beverages to Children in the Americas. Iris Paho [Serial on the Internet]. 2011. ISBN 978-92-75-11638-8. Available from: https://iris.paho.org/handle/10665.2/3594. [Last accessed on 2021 Dec].

25. Pan American Health Organization (PAHO). Front of Packaging Labeling: As a policy tool for the prevention of non-communicable diseases in the Americas. Iris Paho [Serial on the Internet]. 2020 Sep. PAHO/NMH/RF/20-0033. Available from: https://iris.paho.org/handle/10665.2/52740. [Last accessed on 2021 Dec].

Supplemental Data- Investigating the leading reasons for Primary Health Care encounters and its implications for healthcare in Trinidad and Tobago. A Systematic Review.

Table of Contents:

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Supplemental A: Search Strategy

MEDLINE

National Center for Biotechnology Information (NCBI)[Internet]. Bethesda (MD): National Library of Medicine (US), National Center for Biotechnology Information; [1988] – [cited 2020 June 01]. Available from: https://www.ncbi.nlm.nih.gov/

1   ((primary care) OR (primary health care)) OR (medical care) (1,155,789)
2   exp primary health care (1,081)
3   1 AND 2 (1,155,789)
4   ((((((reason*) OR (why)) OR (condition)) OR (cause*)) OR (disorder)) OR (disease*)) OR (illness*) (11,285, 901)
5   ((utilization) OR (visit*)) OR (consultation) (3,877,881)
6   (reasons for encounter) OR (reasons for visit) (17,242)
7   AND 4 AND 5 AND 6
8   ((common) OR (frequen*)) OR (prevalen*) (3,571,781)
9   ((("patient acceptance of health care"[MeSH Terms]) OR ("patient acceptance of health care/statistics and numerical data"[MeSH Terms])) OR ("patient acceptance of health care/epidemiology"[MeSH Terms])) OR ("patient acceptance of health care/trends"[MeSH Terms]) (150,914)
10 7 AND 8 AND 9 (364)
11 7 AND 8 OR 10 (2,543)

CINAHL DATABASE

Searched June 08, 2020.

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

LILACS DATABASE:
Searched: June, 09 2020.

(primary care OR primary health care OR medical care) AND (reasons OR why OR conditions OR disorder OR disease OR illness) AND (utilization OR visit OR consultation) AND (common OR frequen$ OR prevalen$) (190)

PROQUEST DATABASE:
Searched: June, 09, 2020.

ti("primary health care" AND "primary care") OR ("medical care") AND (reasons OR why OR causes OR conditions OR disorders OR diseases OR illness) AND (utilization OR visits OR consultation) AND (common OR frequen* OR prevalen*) AND "reasons for encounter" AND "reasons for visit" (25)

GOOGLE SCHOLAR:
Searched: June, 09, 2020.

(reasons OR causes) AND (visits OR consultations OR utilization) AND (primary care OR primary health care OR medical care) AND (common OR frequen* OR prevalen*)

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Supplemental B: List of included Studies categorized under an RFE category.

RFE Chapters	Patient-Reported RFEs	Physician-Reported RFEs
A chart review of morbidity patterns among adult patients attending primary care setting in urban Odisha,India: An International Classification of Primary Care experience.	A chart review of morbidity patterns among adult patients attending primary care setting in urban Odisha,India: An International Classification of Primary Care experience.	A chart review of morbidity patterns among adult patients attending primary care setting in urban Odisha,India: An International Classification of Primary Care experience.
International Classification of Primary Care -2 Coding of primary care data at the general out patient's clinic of general hospital, Lagos, Nigeria.	Reasons for encounter by different levels of urgency in out-of-hours emergency primary health care in Norway: a cross sectional study	International Classification of Primary Care -2 Coding of primary care data at the general out patient's clinic of general hospital, Lagos, Nigeria.
70,489 primary care encounters: retrospective analysis of morbidity at a primary care centre in Ireland	International Classification of Primary Care -2 Coding of primary care data at the general out patient's clinic of general hospital, Lagos, Nigeria.	Symptoms and medical conditions in 204 912 patients visiting primary health-care practitioners in India: a 1-day point prevalence study (the POSEIDON study)
Statistical complexity of reasons for encounter in high users of out of hours primary care: analysis of a national service	70,489 primary care encounters: retrospective analysis of morbidity at a primary care centre in Ireland	Patient's Utilization of Primary Care: A Profile of Clinical and Administrative Reasons for Visits in Israel
Symptoms and medical conditions in 204 912 patients visiting primary health-care practitioners in India: a 1-day point prevalence study (the POSEIDON study)	Utilization of Primary Health Care Services in Jaba Local Government Area of Kaduna State Nigeria	Reasons for encounter and health problems managed by general practitioners in the rural areas of Beijing, China: A cross-sectional study

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Cross-sectional study in an out-of-hours primary care centre in northwestern Germany – patient characteristics and the urgency of their treatment	Reasons for encounter and health problems managed by general practitioners in the rural areas of Beijing, China: A cross-sectional study	*This has been omitted purposefully*
Reasons for encounter and health problems managed by general practitioners in the rural areas of Beijing, China: A cross-sectional study	Statistical complexity of reasons for encounter in high users of out of hours primary care: analysis of a national service	
This has been omitted purposefully This has been omitted purposefully .	Linking health facility data from young adults aged 18-24 years to longitudinal demographic data	
	Patient's Utilization of Primary Care: A Profile of Clinical and Administrative Reasons for Visits in Israel	
	Reasons for elderly patients GP visits: results of a cross-sectional study	
	Reasons for encounter in primary health care in Brazil	

Table A1: *List of Studies Included in this systematic review as categorized under three categories for analysis: RFE Chapters, Patient-Reported RFEs and Physician-Reported RFEs.*

Supplemental C: ICPC-2 Coding of RFE Chapters

ICPC-2 Code Name Given in this Systematic Review.	ICPC-2 Code Name Given in Individual Studies.
General/Unspecified	General, General and Unspecified, General/Unspecified
Digestive	Gastrointestinal, Digestive
Respiratory	Respiratory
Musculoskeletal	Musculoskeletal
Cardiovascular	Circulatory, Cardiovascular
Neurological	Neurological, Neurology
Female Genital	Female Genitalia, Female Genital, Female genital system and breast
Male Genital	Male Genitalia, Male Genital, Male Genital System
Eye	Eye
Skin	Skin
Ear	Ear
Pregnancy, Childbearing, Family Planning	Pregnancy, Childbearing, Family Planning pregnancy childbirth, family planning
Endocrine/Metabolic and Nutritional	Endocrine, Endocrine/Metabolic and Nutritional, Endocrine, Metabolic, Nutritional,

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Urological	Urology, Urological, Urogenital
Psychological	Psychological
Blood, Blood Forming Organs and Immune Mechanism	Blood, Blood Forming Organs and Immune Mechanism, Blood, Blood forming organs, Lymphatics, Spleen blood, blood forming organs, spleen
Social Problems	Social Problems
Process Codes	Process Codes

Table A2: *List of ICPC-2 Coding for ICPC-2 Chapters recorded in systematic review. The ICPC-2 codes in systematic review were the recoded terms used in this study where as the ICPC-2 codes in the Individual Studies were codes that each included study utilized.*

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Supplemental D: ICPC-2 Coding for RFEs

The following includes the RFEs included in this Systematic Review:

ICPC-2 Code Name Given in this Systematic Review.	ICPC-2 Code.	ICPC-2 Code Name Given in Individual Studies.
Pain general	A01	Pain general/ multiple sites Body ache
Fever	A03	Fever Treatment of other fever
General Weakness/ Tiredness	A04	General weakness/tiredness Weakness/Tiredness (general) Weakness and tiredness Fatigue Weakness/Tiredness
Chest pain general	A11	Chest Pain Chest pain/symptom/condition
General symptom	A29	General symptom/complaint other Other noninfectious General Disease NOS General symptom
Administrative Procedure	A32	Administrative Procedure
Blood Test	A34	Blood Test
Preventative Immunisation	A44	Preventive-immunisation/Medication Immunization Preventative Immunisation
Medical Script/ request/renewal/inject	A50	Medical Renewal General/unspecified medicat-script/reqst/renew/inject Medication Medical Script/request/renewal/inject
Results/Tests/Procedures	A60	Results/exams/tests General/unspecified results/tests/procedures Results/Tests/Procedures

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Tuberculosis	A70	Tuberculosis
Malaria	A73	Malaria Treatment
Viral Disease Other	A77	Viral Disease
No Disease	A97	Safety No Disease
Health maintenance/ prevention	A98	Blood pressure check up Health maintenance/ prevention
Abdominal pain	D01	Abdominal Pain/ cramp Abdominal pain abdominal pain/cramps general Generalized abdominal pain/cramps
Heart Burn	D03	Heart Burn
Gastro-intestinal disease	D70	Gastrointestinal Tract Gastro-intestinal disease GIT complaints
Gastroenteritis presumed infection	D73	Gastro enteritis presumed
Peptic ulcer other	D86	Peptic Ulcer
Stomach function disorder	D87	Stomach function disorder
Shortness of breath/ dyspnea	R02	Shortness of breath/ dyspnea
Cough	R05	Cough
Sneezing/nasal congestion	R07	Sneezing/nasal congestion

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Throat Symptoms	R21	Throat Symptoms Throat symptom/complaint Throat symptom/condition Symptoms/complaint throat
Respiratory symptom/ condition	R29	Respiratory symptom/condition Respiratory Symptom
Upper respiratory tract Infection	R74	Upper respiratory tract Upper respiratory Infection
Laryngitis/tracheitis	R77	Laryngitis/tracheitis
Pneumonia	R81	Lower respiratory tract infections/pneumonia
Chronic obstructive pulmonary disease	R95	Chronic obstructive pulmonary disease
Allergic Rhinitis	R97	Allergic Rhinitis
Back and neck complaint	L01,L02	Back and neck problems Neck/back symptom/condition
Back complaint	L02	Back complaint Back Symptom Chronic Back Ache Back symptom/complaint Back symptoms/complaints
Lower Back Symptoms	L03	LBA Symptoms Low back complaint excluding radiation
Shoulder complaint	L08	Shoulder Symptoms Shoulder symptoms/complaints
Lower Limbs Complaint	L14	Leg/thigh symptom/complaint Leg/thigh symptoms/complaints Lower limbs symptom/injury/condition Orthopedic complaints pertaining to limbs
Knee Complaint	L15	Knee Symptoms Knee symptoms/complaints

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Muscle Pain	L18	Muscle Pain
Osteoarthritis other	L89,L90, L91	Arthritis/joint swellings Arthritis Osteoarthritiis*
Osteoporosis	L95	Osteoporosis
Prescription refill for hypertension	K50	Prescription refill for hypertension
Ischemic Heart disease*	K76,K77	Ischemic Heart disease Ischemic Heart Disease with and without Angina
Ischemic Heart disease	K76	Ischemic Heart disease
Congestive heart failure	K77	Congestive heart failure
Atrial fibrillation/flutter	K78	Atrial fibrillation/flutter
Hypertension	K86	Hypertension uncomplicated Hypertension
Hypertension*	K86,K87	Hypertension* (both Hypertension uncomplicated and Hypertension complicated)
Hypertension complicated	K87	Hypertension complicated
Cerebrovascular disease*	K89,K90, K91	Cerebrovascular disease*
Headache	N01	Head/face symptom/condition Headache Headache (excluding n02 n89 r09)
Vertigo/Dizziness	N17	Vertigo/Dizziness Vertigo/dizziness (excluding h82)
Family Planning	Y14	Family Planning
Visual disturbance/other	F05	visual disturbance/other Visual impairment

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Eye problems	F29	Eye problems
Conjunctivitis Infectious	F70	Conjunctivitis Infectious
Refractive Error	F91	Refractive Error
Ear, Nose and Throat	H29,R06, R21	Ear, Nose and Throat
Pregnancy	W78	Pregnancy
Diabetes	T90,T89,W85	Diabetes
Prescription refill for diabetes	T50	Prescription refill for diabetes
Hypothyroidism	T86	Hypothyroidism
Lipid Disorder	T93	Lipid disorder Dyslipidemia
Skin itching/rash	S07	Skin itching/rash
Skin Problems	S29	Skin problems Skin Symptom Skin symptom/complaint other
Skin Infection Other	S76	Skin Infection
Dermatitis/atopic eczema	S87	Eczema
Cystitis/urinary infection other	U71	Cystitis/urinary infection other Urinary tract infection
Depression	P76	Depression
Anemia	B80	Anemia Anaemia other/unspecified

Table A3: *List of the recoded ICPC-2 codes used in this Systematic Review to replace the ICPC-2 terms utilized in the included studies.*

Supplemental E: List of Charts related to the Results and Analysis Section of this Systematic Review.

Figure A1: The Frequency of RFE Chapters included in the 7 studies which utilized RFE Chapters to categorize the most common RFEs.
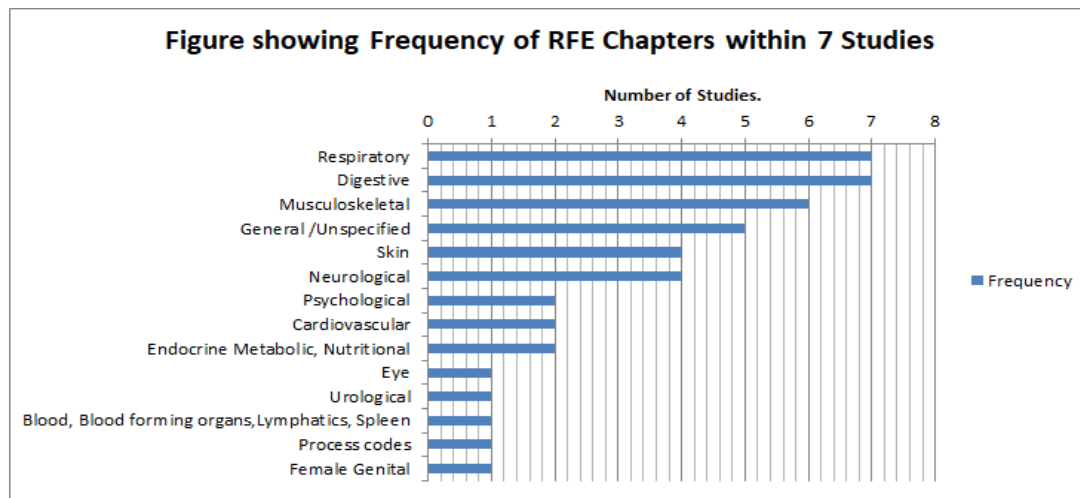

Figure A1: *The Frequency of RFE Chapters reported in 7 included studies. Note that Respiratory and Digestive Chapters are the most frequent ICPC-2 Chapters reported in the studies included this data as they were reported in all 7 included studies.*

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Table A4: Ranking of the RFE chapters in the 7 studies which were utilized.

Top 6 Ranked Most Common RFE Chapters Among 7 Studies													
Swain et al. 2017		**Olagundoye et al. 2016**		**Molony et al. 2015**		**Salvi et al. 2015**		**Seeger et al. 2019**		**Meynard et al. 2015**		**Liu et al. 2017**	
RFE Chapters	RANK	RFE Chapters	RANK	RFE Chapters	RANK	RFE Chapters	RANK	RFE Chapters	RANK	RFE Chapters	RANK	RFE Chapters	RANK
General /Unspecified	1	General/Unspecified	1	General/Unspecified	1	Respiratory	1	Skin	1	General /Unspecified	1	Respiratory	1
Digestive	2	Eye	2	Respiratory	2	Digestive	2	Musculoskeletal	2	Respiratory	2	Cardiovascular	2
Musculokeletal	3	Neurological	3	Musculoskeletal	3	Cardiovascular	3	Respiratory	3	Musculoskeletal	3	Musculoskeletal	3
Neurological	4	Digestive	4	Skin	4	Skin	4	Digestive	4	Psychological	4	Endocrine,Metabolic, Nutritional	4
Respiratory	5	Musculoskeletal	4	Digestive	5	Endocrine,Metabolic, Nutritional	5	Urological	5	Skin	5	Digestive	5
Female Genital	6	Respiratory	5	Psychological	6	Blood, Blood forming organs, Lymphatics, Spleen	6	Process codes	6	Digestive	6	General/unspecified	6

Table A4: *Ranking of RFE Chapters reported in 7 included studies. General/Unspecified was the most frequently ranked as the most common RFE Chapter, followed by Respiratory and Skin.*

Table A5: Comparison of ranking of 11 studies which were utilized Patient-Reported RFEs.

Top 6 Ranked Most Common Patient Reported RFEs Among 11 Studies											
Swain et al. 2017		**Olagundoye et al. 2016**		**Molony et al. 2015**		**Otovwe and Elizabeth 2017**		**Chueiri et al. 2020**		**Liu et al. 2017**	
Patient Reported RFE	Rank	Patient Reported RFE	Rank	Patient Reported RFE	Rank	Patient Reported RFE	Rank	Patient Reported RFE	Rank	Patient Reported RFE	Rank
Fever	1	Headache	1	Medical Script/ request/renewal/inject	1	Preventative Immunisation	1	Results/Tests/Procedures	1	Cough	1
Heart Burn	2	Fever	2	Cough	2	Malaria	2	Medical Script/ request/renewal/inject	2	Prescription refill for hypertension	2
Vertigo/Dizziness	3	Pain general	3	Health maintenance/ prevention	3	Fever	3	Health maintenance/ prevention	3	Throat symptoms	3
Muscle Pain	4	Visual disturbance	4	Blood Test	4	Health maintenance/ prevention	4	Pregnancy	4	Prescription refill for diabetes	4
Lower Back Symptoms	5	Abdominal pain	5	Preventative Immunisation	5	Pregnancy	5	Hypertension	5	Sneezing/nasal congestion	5
General Weakness/ Tiredness	6	Cough	6	Administrative Procedure	6	Family Planning	6	Back complaint	6	Fever	6

Nyundo et al. 2020		**Adar et al. 2017**		**Frese et al. 2016**		**Stegink et al. 2019**		**Raknes and Hunskaar. 2017**	
Patient Reported RFE	Rank	Patient Reported RFE	Rank	Patient Reported RFE	Rank	Patient Reported RFE	Rank	Patient Reported RFE	Rank
Pregancy	1	Upper respiratory tract Infection	1	Cough	1	Gastro-intestinal disease	1	Respiratory symptom/ condition	1
Family planning	2	Gastro-intestinal disease	2	Back complaint	2	Ear, Nose and Throat	2	General symptom	2
Respiratory infection	3	Back and neck complain	3	Shoulder complaint	3	Musculoskeletal complaint other	3	Abdominal pain	3
Malaria	4	Skin problems	4	Knee complaints	4	Chest Pain general	4	Lower Limbs Complaint	4
General symptom	5	Abdominal pain	5	Shortness of breath/ dyspnea	5	No disease	5	Chest pain general	5
Skin problems	6	Lower Limbs Complaint	5	General Weakness/ Tiredness	6	Neurological Symptom Other	6	Fever	5

Table A5: *Ranking of the most common Patient Reported RFEs among 11 included studies. Cough was the most frequently ranked as the most common RFE by Patients. Patients reported frequently RFEs as symptoms experienced.*

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REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Figure A2: Pie chart showing the ICPC-2 Chapters that account for the Patient-reported RFEs.
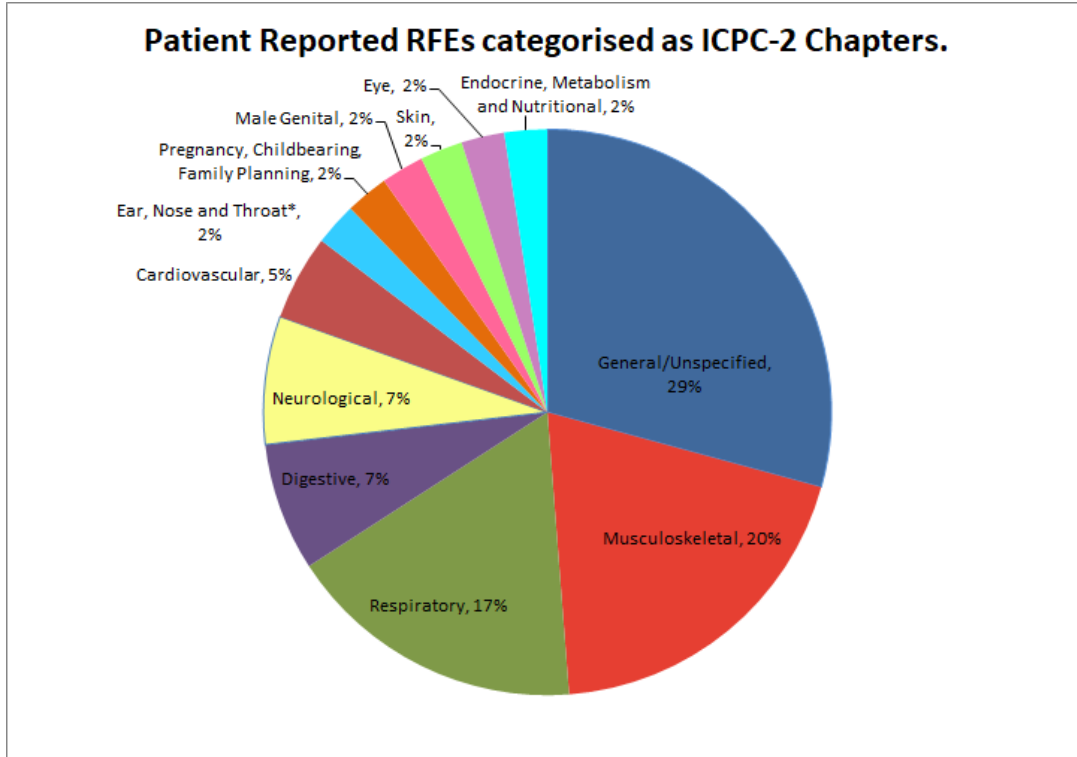

Figure A2: *Patient Reported RFEs further categorized as ICPC-2 Chapters. The most common ICPC-2 Chapter as reported by patients were General/Unspecified, followed by Musculoskeletal and Respiratory Chapters.*

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Table A6: Ranking of Physician-reported RFEs utilized in 5 Studies.

Top 10 Ranked Most Common Physician Reported RFE Among 5 Studies.									
Swain et al. 2017		**Olagundoye et al. 2016**		**Salvi et al. 2015**		**Adar et al. 2017**		**Liu et al. 2017**	
Physician Reported RFE	**RANK**	**Physician Reported RFE**	**RANK**	**Physician Reported RFE**	**RANK**	**Physician Reported RFE**	**RANK**	**Physician Repo**	**RANK**
Hypertension	1	Malaria	1	Hypertension	1	Hypertension	1	Hypertension*	1
Allergic Rhinitis	2	Hypertension	2	Chronic obstructive pulmonary disease	2	Diabetes	2	Upper respirator	2
Upper respiratory Tract Infection	3	Visual disturbance/other	3	Upper respiratory Tract Infection	3	Lipid Disorder	3	Diabetes	3
Acute Bronchitis/ Bronchiolitis	4	Peptic ulcer other	4	Anaemia	4	Hypothyroidism	4	Ischaemic heart disease*	4
Viral Disease Other	5	Upper respiratory Tract Infection	5	Diabetes	5	Depression	5	Cerebrovascular disease*	5
Gastro-intestinal disease	6	Hypertension complicated	6	Pneumonia	6	Asthma	6	Osteoarthritiis*	6
Diabetes	7	Cystitis/urinary infection other	6	Osteoarthritis other	7	Osteoporosis	6	Lipid disorder	7
Gastroenteritis presumed infection	8	General symptoms	6	Dermatitis/atopic eczema	8	Ischemic Heart disease	7	No disease	8
Skin Infection Other	9	Conjunctivitis Infectious	7	Skin itching/rash	9	Atrial fibrillation/flutter	7	Stomach function disorder	9
Cystitis/urinary infection other	9	Refractive error	7	Tuberculosis	10	Congestive heart failure	7	Laryngitis/tracheitis	10
*- Includes all ICPC-2 codes related to the RFE.									

Table A6: *Ranking of Physician Reported RFEs from 5 included studies. Hypertension was most frequently ranked by physicians as the most common RFE. Note that physicians reported RFEs as diagnoses.*

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Figure A3: ICPC-2 Chapters that account for the Physician-Reported RFEs.

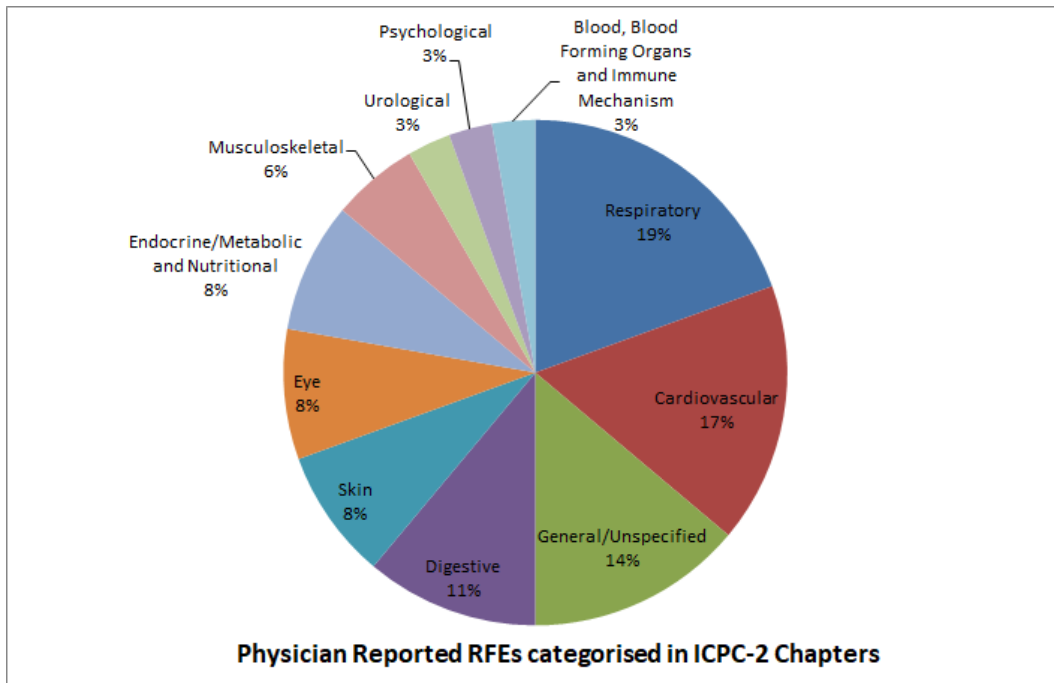**Physician Reported RFEs categorised in ICPC-2 Chapters**

Figure A3: *Physician Reported RFEs further categorized as ICPC-2 Chapters. Overall, Physicians diagnosed Respiratory as the most common ICPC-2 chapter followed by Cardiovascular.*

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Supplemental F: Letter of Approval of Submission from Principal Research Investigator.

THE UNIVERSITY OF THE WEST INDIES
ST. AUGUSTINE, TRINIDAD & TOBAGO, WEST INDIES
FACULTY OF MEDICAL SCIENCES
DEPARTMENT OF PARACLINICAL SCIENCES
PUBLIC HEALTH AND PRIMARY CARE UNIT
Telephone/Fax: (868) 645-2018 /645-3232 Ext 2883

November 07, 2019

Attention: Campus Ethics Committee

Please be advised that I am the principle research investigator and supervisor of the group with **reference number:CREC-SA.0093/.** The title of the research is "A study of the leading reasons for primary care visits and knowledge, attitudes and practices of patients accessing primary care services in North Central and South West Trinidad." I acknowledge and approve the submission with the relevant application figments.

I thank you for your consideration in this matter.

Sincerely,

Dr Raveed Khan
Lecturer in Family Medicine
UWI- St Augustine

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Supplemental G: Letter of Ethical Approval from UWI ethics committee.

THE UNIVERSITY OF THE WEST INDIES
ST AUGUSTINE, TRINIDAD AND TOBAGO, WEST INDIES
CAMPUS RESEARCH ETHICS COMMITTEE
TEL.: (1-868) 662-2002 ext. 82755   E-mail: campusethics@sta.uwi.edu

January 30 2020

Dr. Raveed Khan (Nkese Charles, Valtio Cooper, Ashley Chankersingh, Whitney Clarke, Jenice Clarke, Devonia Creary, Sherise Charle, Farhaana Dan)
Unit of Public Health and Primary Care, University of the West Indies, St. Augustine
Email: Raveed.Khan@sta.uwi.edu

Dear Dr. Raveed Khan ,

Ref: CREC-SA.0093/11/2019

Title: A study of the leading reasons for primary care visits in North Central and South West Trinidad

I am pleased to advise that your application for research on the above captioned topic has met the criteria for Exemption from Review from the Campus Research Ethics Committee, St. Augustine.

Sincerely,

Surendra Arjoon (Prof.)
Chairman
Ethics Committee

Digitally generated by UWIScholar

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Supplemental H: Similarity Report.

Public health project (3)

ORIGINALITY REPORT

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PRIMARY SOURCES

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REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

17	www.scie-socialcareonline.org.uk Internet Source	<1%
18	Sundeep Salvi, Komalkirti Apte, Sapna Madas, Monica Barne et al. "Symptoms and medical conditions in 204 912 patients visiting primary health-care practitioners in India: a 1-day point prevalence study (the POSEIDON study)", The Lancet Global Health, 2015 Publication	<1%
19	Ndubuisi Onyemaechi, William N.A. Menson, Xan Goodman, Samantha Slinkard et al. "Impact of traditional bonesetters on contemporary fracture care in Low and Middle Income Countries (LMICs): a systematic review", Research Square, 2019 Publication	<1%

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	Off		

21

Supplemental I: PRISMA 2020 Checklist for Systematic Review.

PRISMA 2020 Checklist for Investigating the leading reasons for Primary Health Care encounters and its implications for healthcare in Trinidad and Tobago. A Systematic Review.

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			Pg. 1
Title	1	Identify the report as a systematic review.	
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Pg. 2,3
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Pg. 4
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Pg. 4,5
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Pg. 6,7
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Pg. 6
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Pg. 6
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Pg. 6,7
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Pg. 7,8,9
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Pg. 7,8,9
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Pg. 8,9

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Section and Topic	Item #	Checklist item	Location where item is reported
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Pg. 9
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	N/A
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Pg. 6
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Pg. 7,8
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Pg. 8
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Pg. 7,8.
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	N/A
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	N/A
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Pg. 9
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Pg. 8
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Pg. 10
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Pg. 10
Study characteristics	17	Cite each included study and present its characteristics.	Pg. 11
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Pg. 11
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Pg. 11, 12, 13
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Pg. 11, 13-14

REASONS FOR PRIMARY HEALTH CARE ENCOUNTERS.

Section and Topic	Item #	Checklist item	Location where item is reported
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Pg. 14-20
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Pg. 13,14
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	N/A
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Pg. 13,14
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	N/A
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Pg. 21, 22
	23b	Discuss any limitations of the evidence included in the review.	Pg. 22, 23, 24
	23c	Discuss any limitations of the review processes used.	Pg. 22, 23, 24
	23d	Discuss implications of the results for practice, policy, and future research.	Pg. 24, 25, 26
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	N/A
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	N/A
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	N/A
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Pg. 28
Competing interests	26	Declare any competing interests of review authors.	Pg. 29
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	Pg. 29

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71
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