

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1043	Family Medicine
<p>Authors R.Y.S.TAY¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Reasons why patients in Toa Payoh Polyclinic with clinical Familial Hypercholesterolemia (FH) decline Endocrinology referral</p> <p>Background & Hypothesis Familial Hypercholesterolemia (FH) is an autosomal dominant inherited condition with a reported prevalence of 1 in 250, translating to an estimated 20000 cases in Singapore. Patients with FH are at a 420-fold increased risk of premature cardiovascular disease, and early diagnosis and treatment can reduce this risk by up to 80%. In our primary care centre, patients with hypercholesterolemia are screened routinely for clinical FH using the Simon Broome criteria. Those screened positive are offered a referral to see an Endocrinologist for formal genetic testing, family screening, and treatment optimization. However, some patients decline.</p> <p>Methods We conducted a survey on patients with hypercholesterolemia, as well as clinicians who encountered referral rejections, to understand reasons why these referrals were declined. Themes were identified based on the survey results.</p> <p>Results 20 patients and 8 clinicians were surveyed. We identified 3 main themes for declining referral: “Cost concerns around genetic testing and additional specialist consultations”, “Fear of impact of genetic testing – insurance and knowledge of inherited disease in family”, “Low perceived value – not having kids hence no utility of screening, other more important commitments, seeing a specialist does not change management of hypercholesterolemia”, amongst others.</p> <p>Discussion & Conclusion The reasons for declining an Endocrinology referral in patients with clinical FH were multi-faceted and consistent amongst surveys conducted with both patients and clinicians. Moving forward, insights from this study can guide clinicians and administrators towards addressing some of these barriers in patients with clinical FH, to improve patients’ receptivity to an Endocrinology referral which they will benefit from.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1101	Family Medicine
<p>Authors K.W.TAN¹, G.M.T.PHOA¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Assessing patient activation amongst patients with suboptimal control of diabetes mellitus</p> <p>Background & Hypothesis Diabetes mellitus is a common condition managed in Toa Payoh Polyclinic. Slightly over half of our patients achieve optimal control, defined as having HbA1c $\leq 7\%$. Patient activation is key to improving control of the other half. The 12-item Altarum Consumer Engagement Measure (ACE12) is a well validated scale used to assess patient activation. Locally, Lixia et al. (2018) have tested a shortened ACE7 with good results. We conducted a pilot to explore patient activation using ACE7 amongst patients with suboptimal control of diabetes.</p> <p>Methods An interviewer administered survey using ACE7 was conducted on patients with suboptimal control of diabetes in Toa Payoh Polyclinic who came for follow-up. Patient activation scores were calculated, and results were analysed using SPSS 14.0.</p> <p>Results 56 patients were surveyed, with a mean age of 60.5 (SD=6.0), and mean HbA1c of 9.9 (SD=1.7). The mean ACE7 score was 35.3 (SD=4.7), out of a maximum of 50. There were no statistically significant associations between ACE7 and age, race, HbA1c, systolic blood pressure, LDL, or BMI. One of the items on the 7-item scale, "I have brought my own information about my health to show my doctor", scored the least on a 5-point (0-4) Likert scale, with a mean of 2.30 (SD=0.63).</p> <p>Discussion & Conclusion In this pilot, there was a reasonable level of activation, with only 5 patients scoring ≤ 30 for ACE7. There may be a gap in patient bringing their health information for doctors. Further studies should be done to confirm and explore reasons for the above findings.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1102	Family Medicine
<p>Authors W.L.R.CHEONG¹, K.W.TAN¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Reasons for Short-Acting Beta Agonist (SABA)-only monotherapy in patients with asthma in Toa Payoh Polyclinic</p> <p>Background & Hypothesis Since 2019, local and international guidance on asthma management recommended against the use of SABA monotherapy for the management of patients with asthma above 6 years old. Despite that, data in the US and Australia found that 25-39% of asthma patients were not on a preventer. In our primary care clinic, this figure stands at 7.6%.</p> <p>Methods A focus group comprising of clinicians from our clinic participated in the discussion. We sought to identify reasons for patients with asthma being on SABA monotherapy. A moderator led the discussion, with details analysed to formulate themes.</p> <p>Results 5 clinicians participated in the focus group discussion. The study identified 3 main themes for patients with asthma being on SABA monotherapy: 'patient misconceptions about steroid therapy', 'inadequate competence in asthma management', and 'lack of reminders for clinicians to address SABA-only monotherapy'. Participants felt that there was a dynamic interaction between all 3 themes and all 3 themes contributed to the persistence of SABA-only monotherapy to varying degree.</p> <p>Discussion & Conclusion The reasons for SABA monotherapy in patients with asthma were multi-faceted, and the interaction of these factors contributed to the continued usage of SABA monotherapy despite recommendations from guidelines. Moving ahead, insights gleaned from this study provide ideas for future research around the topic, and also helps guide clinicians and policymakers in optimizing care for patients with asthma.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1304	Family Medicine
<p>Authors B.F.J.R.SOH¹, E.X.Y.LIM¹, S.L.ONG¹, J.LI¹, J.G.DE ROZA¹, L.J.GOH¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Fear of Hypoglycemia and Medication Compliance Among Primary Care Patients. A Quantitative Descriptive Study</p> <p>Background & Hypothesis Hypoglycemia is a potential risk when patients with diabetes are treated with oral hypoglycemic agents or insulin. Patients with an increased fear of hypoglycemia might keep a higher serum glucose level through medication non-adherence. This quantitative study set out to explore primary care patients' fear of hypoglycemia and its relationship to medication adherence in Singapore.</p> <p>Methods A cross-sectional survey of 210 patients with diabetes aged 21 years and above was conducted across 7 polyclinics. The validated Medication Adherence Report Scale-5 and Hypoglycemia Fear Survey-II (HFS) were used to assess medication adherence and hypoglycemia fear respectively. Descriptive statistics for sociodemographic, clinical data and differences were analysed using Mann-Whitney U test and Kruskal-Wallis test for non-parametric variables.</p> <p>Results 94% of the patients were on biguanides, 43% on sulfonylureas, 31% on sodium-glucose co-transporters inhibitors, 20% on dipeptidyl peptidase-4 inhibitors and 18.1% on insulin. 57.5% of the patients took multiple types of diabetic medications. Patients who were non-compliant to medications had higher HFS scores ($p < 0.001$). Patients who remembered to take their medication ($p = 0.029$) and took them as prescribed ($p < 0.001$) had lower HFS scores. Patients who often decided to miss a dose ($p < 0.001$) or alter the dose ($p < 0.001$) had higher HFS scores.</p> <p>Discussion & Conclusion This study found a significant difference in HFS scores between patients who were adherent and non-adherent to medication. Medication compliance has been strongly associated with optimal glycemic control thereby reducing complications from diabetes. Further research is required to explore the reasons for poor medication adherence among diabetics in order to reduce complication rates.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1325	Family Medicine
<p>Authors J.G.DE ROZA¹, D.W.L.NG¹, C.WANG¹, L.J.GOH¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Attitudes and barriers towards fall prevention physical activity among community-dwelling older adults</p> <p>Background & Hypothesis Falls and fear of falling (FoF) are common in older adults. Physical activity can reduce falls risk and FoF but many older adults verbalize barriers to participate in physical activity. This study aimed to describe attitudes and barriers towards physical activity for falls prevention among community-dwelling older adults.</p> <p>Methods For this descriptive cross-sectional study, a convenience sample of adults aged 65 and above were recruited from four primary care clinics from September 2020 to March 2021. Demographic characteristics, falls history and information on common barriers to physical activity were collected. FoF was measured with Short Falls Efficacy Scale–International (Short FES-I); score 9 and above indicated FoF. Attitudes to Falls-Related Interventions Scale (AFRIS) was used to determine attitudes towards fall prevention physical activity.</p> <p>Results Of 360 older adults, median age was 78 (IQR 12), 59.7% females, and 78.1% Chinese. 21.1% had history of fall in the past six months and 82.2% reported FoF. The majority agreed that falls prevention physical activity would benefit them (77.5%) and improve confidence (66.7%). However, 41.7% felt it would be difficult to do falls prevention physical activity. Common barriers were perception that their health conditions limited physical activity (43.3%), lack of motivation (35%), and worry that physical activity would cause injury (29.2%) or cause pain (23.3%).</p> <p>Discussion & Conclusion The study provided insights about older adults' attitudes and barriers towards fall prevention physical activity. Addressing these barriers is essential to improve uptake and effectiveness of physical activity for fall prevention.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1328	Geriatric Medicine
<p>Authors J.G.DE ROZA¹, D.W.L.NG¹, C.WANG¹, L.J.GOH¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Factors impacting attitudes towards fall prevention physical activity among community-dwelling older adults</p> <p>Background & Hypothesis Falls in older adults is a common problem. Fear of falling (FoF) leads to activity restriction and risk of future falls. Physical activity can reduce frailty, falls and FoF. This study aimed to evaluate factors that impact attitudes towards fall prevention physical activity among community-dwelling older adults with various levels of frailty.</p> <p>Methods This descriptive cross-sectional study recruited a convenience sample of adults aged 65 and above from four primary care clinics from September 2020 to March 2021. Demographic characteristics, falls history and frailty measured by Clinical Frailty Scale were collected. FoF was measured with Short Falls Efficacy Scale–International (Short FES-I); score 9 and above indicated FoF. Attitudes to Falls-Related Interventions Scale (AFRIS) measured attitudes towards fall prevention physical activity; higher total score indicated more positive attitude.</p> <p>Results Of 360 participants, 63.6% were above 75 years old, 59.7% females, and 78.1% Chinese. 29.4% were well, 27.5% pre-frail, 23.9% mildly frail and 19.2% moderately frail. 21.1% had fallen in the past six months and 82.2% reported FoF. The median AFRIS score was 31 out of 42. Multivariate analysis showed that FoF predicted more positive attitudes to fall prevention physical activity (p=0.032). Indians compared to Chinese (p=0.004) and moderately frail compared to well (p=0.006) had less positive attitudes to fall prevention physical activity. Age, gender and falls history were not predictive.</p> <p>Discussion & Conclusion The information about the factors that impact attitudes of older adults towards fall prevention physical activity will facilitate development of targeted interventions for patients with different frailty levels and FoF.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1330	Endocrinology
<p>Authors J.LI, X.ZHU¹, J.G.DE ROZA¹, C.Y.CHAN¹, L.E.ONG¹, P.K.LIM¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Exploring the impact of COVID-19 pandemic on the self-management behaviours of primary care patient with Type 2 Diabetes Mellitus (T2DM) in a qualitative study.</p> <p>Background & Hypothesis Effective self-management of T2DM, which is essential for good glycemic control, has been shown to be affected during the COVID-19 pandemic. This qualitative study aimed to understand the self-management behaviours and the factors affecting it during the pandemic.</p> <p>Methods Semi-structured audio-recorded in-depth interviews were conducted with 5 participants with T2DM following up at primary care. Audio recordings were transcribed verbatim and data were analysis thematically through an iterative process.</p> <p>Results The overarching theme that emerged in the preliminary analysis is “Rising up to the challenge: perceived self-efficacy during the pandemic”. Three sub-themes: 1) Restrictions during the pandemic, 2) Fear of contracting COVID-19 and 3) Reduced monitoring by healthcare professionals challenged optimal self-management behaviours of patients with T2DM. Patients’ perceived self-efficacy in managing diabetes empowered them to adapt to healthy eating patterns and alternative forms of exercise during restrictions. Fear of severe COVID-19 symptoms and reduced monitoring by healthcare professionals increased their awareness of the importance of strong immunity and motivated them to take better care of their health. Their perceived self-efficacy manifested in the form of positive thinking and self-assurance when dealing with stress and uncertainty of contracting COVID-19. Perceived self-efficacy was found to be influenced by health belief and disease knowledge established before the pandemic.</p> <p>Discussion & Conclusion Using COVID-19 pandemic as case discussion could facilitate patients with T2DM to increase their perceived benefits of desirable health-related behaviours. Education programs could target at improving self-efficacy and knowledge of diabetes self-management to improve the likelihood of undertaking essential health behaviours.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1331	Infection control practices
<p>Authors Y.RAMA KRISHNAN¹, DE ROZA J¹, L.J.GOH¹</p> <p>¹NHG Polyclinics (Singapore),</p> <p>Title Primary healthcare nurses' current knowledge, attitude, and self-reported practices when caring for patients with multiple drug resistance organisms (MDRO).</p> <p>Background & Hypothesis Polyclinic nurses to be aware of their role in prevention of spreading MDROs by practicing infection control guidelines advocated by the organisation. The primary aim of this study is to describe the level of knowledge, attitudes, and self-reported practices (KAP) in MDROs among the nurses at NHGP when caring for patients with MDROs.</p> <p>Methods A cross-sectional study using purposive sampling of 131 nurses was conducted in 7 polyclinics. This is a self-administered validated questionnaire. Non-parametric tests would be used due to non-normal distribution</p> <p>Results Median age of nurses is 36 (IQR=14, range= 22-60). 97.7% of the nurses had at least Diploma in Nursing and 80.2% had more than 5 years of experience in nursing. 83.2% of the nurses had score of 70% and above for knowledge but only 4.6% had full score. For practice, 87.8% had score of 70% and above and 42% had full score. Median score for attitude was 32.0 (IQR=5.0, range=27-43). Only 36.6% and 32.1% of the nurses correctly answered the question on terminal cleaning and CD spores respectively. 77.9% of the nurses felt that they should not be penalised for non-compliance to infection control measures. Only 38.9% of the nurses felt that they should respond negatively when a colleague is not compliant. There are no significant differences between KAP and age, educational level, and years of experience.</p> <p>Discussion & Conclusion Knowledge fared slightly lower than practice. Infection control nurses could explore ways to educate nurses on terminal cleaning and CD spores. Cultivating positive attitude is essential to uphold infection control guidelines.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1333	Family Medicine
<p>Authors H.C.LAM¹, E.X.Y.LIM¹, J.G.DE ROZA¹, L.J.GOH¹, P.L.TAN¹, X.CHANG¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Socioeconomic factors and its relationship with Fear of Hypoglycaemia in patients with Type 2 Diabetes Mellitus: A Cross- Sectional Study in Primary Care</p> <p>Background & Hypothesis The impact of socioeconomic factors on Fear of Hypoglycaemia (FoH) among patients with Type 2 DM (T2DM) is not well understood in primary care. This study aimed to determine the differences in FoH for various socioeconomic factors among T2 DM patients in primary care</p> <p>Methods This cross-sectional study recruited participants aged 21 and above using convenience sampling among the seven National Healthcare Group Polyclinics (NHGP) over 6 months in 2022. The self-administered questionnaire included demographic and clinical information. The locally validated Hypoglycaemia Fear Survey (HFS-II) was used to measure FoH. The HFS-Behaviour (HFSB) and HFS-Worry (HFSW) subscales described behaviours to prevent experiencing hypoglycaemia, and specific concerns during hypoglycaemia events, respectively. Higher scores indicated higher FoH.</p> <p>Results Of 210 participants, the mean age was 63 years old, 54.3% were male. The majority were Chinese (69.5%), married (80.5%), employed (58.1%), and had secondary education or higher (74.7%). Mann-Whitney-U showed that those who were not married had significantly higher scores compared to married for HFS-II (39 versus 35, p=0.013), HFSB (18 versus 15, p=0.013) and HFSW (22 versus 18, p=0.017). There were no significant differences for gender, ethnicity, education or employment status.</p> <p>Discussion & Conclusion The finding that non-married participants have higher FoH may be related to less social support and warrants further exploration. Healthcare providers should be aware of sociodemographic factors when addressing concerns related to FoH.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1335	Family Medicine
<p>Authors V.ARUMUGAM¹, P.L.TAN¹, DE ROZA JG¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Doctor Google - Sources and Types of Internet Health Information Searched by Adults with Chronic Conditions: A Descriptive Cross-Sectional Study in Primary Care.</p> <p>Background & Hypothesis In recent years, the use of internet has become increasingly popular for health information retrieval. However, the extent to which these resources are utilized is unknown. This study aimed to describe internet sources and types of health information searched by adults with chronic conditions in primary care.</p> <p>Methods This descriptive cross-sectional study recruited participants aged 21 and above with at least one chronic condition using convenience sampling at seven polyclinics in Singapore over 6 months in 2023. The self-administered questionnaire included demographics, clinical data, and a list of internet sources and types of health information. Descriptive statistics were used for data analysis.</p> <p>Results Of 246 participants, the mean age was 66 years old, majority Chinese (77.2%), male (52.6%), employed (61.5%) and had secondary education or higher (93.7%). 26.6% used internet less than once in a month and 10.8% used daily. Health-Hub application (61.3%) is mostly utilized for health information, follow by hospital or clinic websites (38.7%) and others (31.8%). Majority (91.4%) used Google search engine and few (8.6%) used medical websites such as Mayo clinic. The most common types of health information searched for were symptoms (57.7%), lifestyle (50%) and medication (41.9%). Majority (62.4%) discussed information from the internet with healthcare personnel.</p> <p>Discussion & Conclusion This study provided insight about the sources and types of internet health information sought by adults with chronic conditions. It is important to engage patients about the use of internet health information and credibility of internet sources.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1338	Family Medicine
<p>Authors C.Y.CHAN¹, J.G.DE ROZA¹, S.Y.TAN¹, S.C.MAH¹, C.WANG¹, M.A.TAY¹, EMILY X.Y.LIM¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Factors influencing physical activity levels in community dwelling older adults</p> <p>Background & Hypothesis Local guidelines recommend 150-minutes of physical activity per week for substantial health benefits. However, low physical activity is common among the ageing Asian society. This study aimed to evaluate factors influencing physical activity among older adults.</p> <p>Methods Data was collected from participants aged ≥65 from January 2022 to June 2023 from 7 primary care clinics in Singapore. Baseline physical activity levels were self-reported using the Incidental and Planned Exercise Questionnaire. A 150-minute/week or more was deemed as meeting exercise recommendation. Demographic and clinical data assessed included multi-morbidity, fall history, fear of falling (FoF) using Short Falls Efficacy Scale-International and frailty using Clinical Frailty Scale (CFS). Chi-square test was used to determine differences in exercise levels.</p> <p>Results Of 153 participants, 67.3% were female. Mean age was 76 years. Overall, 64.7% did not meet exercise recommendation. For elderly who meets 150min/week, they were most likely to be attending daycare. There were significant differences in proportion of those who did not meet exercise recommendation among frailty levels ($\chi^2(1)=8.613$, $p=0.035$) with the highest proportion among the vulnerable (CFS 4) group (76.5%). No difference in exercise levels were found for age, gender, multi-morbidity or history of falls. Significantly more (74.6%) of those with high FoF did not meet exercise recommendations as compared to 56.1% of those with low to moderate FoF ($\chi^2(1)=5.524$, $p=0.019$).</p> <p>Discussion & Conclusion Inadequate exercise levels was higher in vulnerable older adults and those with high FoF. Centre-based and community-based interventions targeted towards overcoming FoF may improve exercise participation.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1339	Family Medicine
<p>Authors P.K.LIM¹, C.Y.CHAN¹, E.X.Y.LIM¹, J.G.DE ROZA¹, L.J.GOH¹, E.L.GOH¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Exploring diabetic patients' medication compliance and its relations to anti-hyperglycaemic agents in primary care: A cross-sectional study.</p> <p>Background & Hypothesis Different classes of anti-hyperglycaemic agents have been prescribed to type II diabetic patients to achieve optimal glycaemic control as the disease progresses. Medication compliance is important for maximizing its effectiveness. However, there are limited local studies exploring the relationship between medication compliance and numbers of anti-hyperglycaemic agents. Our study aimed to describe diabetic patients' medication compliance and its relations to anti-hyperglycaemic agents. We hypothesized there is difference in medication compliance between patients who are on one and 2 or more types of anti-hyperglycaemic agents.</p> <p>Methods A self-administered survey was conducted at 7 primary care clinics over 8 months using convenience sampling. Patients with Type II diabetes without cognitive, vision and hearing impairment were invited for the study. MARS-5 was used to assess medication compliance. Score of 25 indicates compliance while score <25 indicates non-compliance. Data was analysed using SPSS.</p> <p>Results 210 patients were included in the study with mean age of 63 years (SD=10.27). Median duration of diabetes was 8.0 years (IQR=9.0). Only 39.5% self-reported medication compliance. Significant non-compliance was noted with the increased of anti-hyperglycaemic agents ($X^2=20.719, df=5, p<.001$). Patients with one medication had 3 times the odds of complying to medication compared to patients with 2 or more medications, after adjusting for ethnicity and whether patients were on insulin ($p<0.001$).</p> <p>Discussion & Conclusion Overall medication compliance was low. This supports the need to review and minimize the pill burden of the patient to enhance medication compliance.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1345	Primary Healthcare
<p>Authors W.K.CHUA¹, Y.X. ZHANG¹, S.L. JIA¹, L.M. SANGGARAGAS¹, N.D. TOGEMAN¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Assessing the Effectiveness of an Online Learning module in Improving the medication Knowledge among Primary Healthcare Nurses in Singapore</p> <p>Background & Hypothesis Background: Primary healthcare nurses must possess a thorough understanding of the common medications used in Polyclinics. To ensure that their knowledge remains current, a mandatory online module with comprehensive quizzes is required. Aim: This study aims to evaluate the nurses' online learning experience on medication knowledge in Primary Healthcare.</p> <p>Methods The study utilized a quantitative, descriptive cross-sectional design to evaluate the learning experience of 253 nurses who completed an online learning module and quizzes, then followed by a survey questionnaire. The survey had five categories with five-point Likert scale items. It covered clear goals and structure, appropriate workload, quality of online learning material, proper assessment, and cognitive presence.</p> <p>Results According to the survey conducted on 253 nurses, the online learning module on medication knowledge was proved to be effective. The module had well-defined objectives, a suitable workload, engaging materials, and informative quizzes. Additionally, it enhanced the cognitive presence of the nurses and helped them apply the acquired knowledge.</p> <p>Discussion & Conclusion The study's results showed that the online learning on the medication knowledge for Primary Healthcare nurses had met nurses' learning needs and strengthened their medication knowledge. The online learning module was used as a refresher to reinforce the medication indication, side effects and contraindications. It helped increase enhance nurses' knowledge and confidence levels, improve patient safety and increase job satisfaction for nurses. Recommendations: Future research could explore pedagogical methodologies that translate theoretical knowledge into practical skills. This would ultimately enhance the critical thinking abilities of nurses.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1379	Family Medicine
<p>Authors S.T.JHIN¹, J.DE.ROZA¹, L.J.GOH¹, Y.C.CHEN¹, J.ZHU¹, C.Y.CHAN¹, J.M.LI¹, P.K.LIM¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Understanding the importance of digital health literacy among adults with chronic conditions in primary healthcare: a cross sectional study</p> <p>Background & Hypothesis Health information is easily accessible online and is used by many adults. However, it is still unclear whether they found it to be important or if they have the skill to obtain high-quality health information and confidently used it to make health decisions. This study will identify those issues and the socio-demographic factors that influencing their health literacy.</p> <p>Methods 246 adults with chronic diseases participated in this in this cross-sectional study from March to June 2023 in NHGP. Participants were asked to complete a questionnaire consisting of demographic details and items from eHealth Literacy Scale (eHEALS). Non parametric test and descriptive statistics were used to analyse the data.</p> <p>Results 76% of the participants believed that it is important to be able to access health information online and about 53% felt they have skills to obtain high quality information and use it confidently to make health decisions. Participants below 70 years old ($H(2)=10.313$, $p=0.006$), have tertiary education ($H(3)=11.695$, $p=0.009$) and working full-time ($H(3)=10.165$, $p=0.017$) demonstrated higher level of digital health literacy compared to those who are older, have less education and are not employed fulltime.</p> <p>Discussion & Conclusion Participants who are 70 years old or older, less educated, or those who did not work full-time may benefit from individualized focused interventions to improve their knowledge and confidence level in digital health literacy in order to help them keep up with the growing number of health-related information online.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1388	Family Medicine
<p>Authors L.J.GOH,¹ ¹NHG Polyclinics (Singapore)</p> <p>Title Factors affecting infection control practices in nurses caring for patients with multidrug resistance organisms (MDRO): a cross-sectional study in National Healthcare Group Polyclinics</p> <p>Background & Hypothesis Nurses attending to patients with wound dressings are seeing an increase in the MDRO cases. To curb the transmission of MDRO, our polyclinics have implemented infection control measures to stop the transmission of MDRO. The latest survey done found that only 42% of the nurses were correct in their infection control practices. Thus, this study aims to identify the factors affecting the infection control practices in nurses caring for patients with MDRO.</p> <p>Methods 131 nurses in 7 polyclinics participated in this cross-sectional study using purposive sampling. All nurses aged 21 years and above are eligible for the study. The study utilised a self-reported knowledge, attitude and practice(KAP) questionnaire on infection control practices with good content validity and reliability (S-CVI/Ave=0.87, $\alpha= 0.742$). The higher the scores, the better the KAP. Multiple regression is used to predict the factors associated with better practices.</p> <p>Results For every additional increase in age, the practice score increases by 0.136($p=0.024$). Compared to nurses with Diploma and below, nurses with Bachelor and Master Degrees had practice score increases by 2.066($p=0.020$). Nurses who frequently attend to MDRO patients had practice scores increased by 2.493 ($p=0.005$) as compared to nurses who seldom attend to MDRO patients. An additional increase in attitude scores increases the practice score by 0.550($p<0.001$).</p> <p>Discussion & Conclusion This study shows that better attitudes drive better practices in infection control. Creating and maintaining a positive attitude in practising infection control is essential. More study is needed to explore the relationship between knowledge and practice.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1430	Family Medicine

Authors

Y.L.LU¹, S.H.W.POH¹, J.G.DE ROZA¹, L.J.GOH¹, E.X.Y.LIM¹

NHG Polyclinics (Singapore)

Title

Factors influencing medication adherence among persons with Type 2 diabetes mellitus (T2DM) in primary healthcare.

Background & Hypothesis

Medication adherence is an important component in diabetes self-care. Medication non-adherence could affect glycaemic control and increase risk of diabetes complications. This study aimed to identify the factors influencing medication adherence among persons with T2DM.

Methods

A cross-sectional study was conducted at seven National Healthcare Group Polyclinics recruiting T2DM patients aged 21 years and above on oral hypoglycaemic agent(s) (OHGA) and/or insulin for at least 1-year. The self-administered questionnaires include demographic, clinical data and a validated 5-item Medication Adherence Report Scale (MARS-5) assessing medication adherence. Medication adherence was denoted yes (score=25) or no (<25). Logistic regression was used to identify predictors to medication adherence.

Results

Of 210 participants, 54% were male, mean age was 63 years-old and median duration of T2DM were 8 years. 70% were Chinese, 17% were Malays, 12% were Indians and 1% were others. MARS-5 showed 39.5% were adherent to medications over the last 6 months. For every additional increase in age, medication adherence increased by 3.7% ($p=0.026$). Malays had 2.8 times higher odds of adhering to medication compared with Chinese ($p=0.032$). Patients not on insulin had 3.2 times higher odds of adhering to medication compared with those on insulin ($p=0.015$).

Discussion & Conclusion

This study provided insight into factors influencing medication adherence among persons with T2DM in primary healthcare. This knowledge, accompanied with further in-depth studies, can be used to devise effective patient educational strategies to promote medication adherence, especially among T2DM patients on insulin.

**SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research**

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1440	Family Medicine
<p>Authors E.X.Y.LIM¹, J.G.D.ROZA¹, L.J.GOH¹, V.C.M.CHONG¹</p> <p>NHG Polyclinics (Singapore)</p> <p>Title Hypoglycemia episodes and fear of hypoglycemia among patients on anti-diabetic medications in primary care</p> <p>Background & Hypothesis Hypoglycemia episodes (HE) and fear of hypoglycemia (FoH) may occur when patients experience hypoglycemia with the use anti-diabetic medications for optimizing glycemic control in type 2 diabetes mellitus (T2DM). The study aimed to explore HE and FoH in patients on anti-diabetic medications in primary care.</p> <p>Methods A cross-sectional study conducted at seven polyclinics in Singapore recruited patients 21 years and above with T2DM for at least a year. Self-administered questionnaire included demographic and clinical data such as type of T2DM treatment, number of HE in the last twelve months and locally validated Hypoglycemia Fear Survey II (HFS-II) with higher score indicating increased FoH.</p> <p>Results 210 patients recruited, median duration of T2DM was 8 years and median HbA1c was 7.2%. 34.8% were on Sulfonylureas (SU) without insulin, 10% on insulin without SU, 8.1% on both SU and insulin and 47.1% were neither on SU or insulin. Chi-square showed differences in HE between medication categories ($\chi^2(2)=25.2$, $p<0.001$). Among 24.3% who reported HE, only 9.1% were not on SU and insulin, compared to 34.2%, 47.6%, and 41.2% on combination of SU and/or insulin respectively. Kruskal-Wallis showed differences in HFS-Behavior ($\chi^2(2)=31.9$, $p<0.001$), HFS-Worry ($\chi^2(2)=35.9$, $p<0.001$) and HFS-II score ($\chi^2(2)=34.6$, $p<0.001$) between medication categories, with higher score for those on SU and insulin.</p> <p>Discussion & Conclusion The study discovered that SU and insulin were associated with HE and FoH. Addressing FoH and providing diabetic education inclusive of hypoglycemia management are important in achieving optimal glycemic control and preventing HE in patients.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1499	Family Medicine
<p>Authors K.P.SZE¹, Q.W.FONG¹, J.G.DE ROZA¹, E.S.LEE¹, S.Y.TAN¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Exploring doctors' perceptions of digital health's impact on the patient-doctor relationship in Singapore's primary healthcare setting – A Qualitative Study</p> <p>Background & Hypothesis Digital health has become essential for effective clinical practice. However, successful adoption of digital health is dependent upon the strength of the patient-doctor relationship. The patient-doctor relationship shapes the quality of primary care and impacts healthcare outcomes. As no studies have explored the primary care doctors' experiences with digital health, we aim to explore the types of digital health primary care doctors use and understand its impact on the patient-doctor relationship from their perspective.</p> <p>Methods This exploratory qualitative descriptive study used individual in-depth interviews guided by a semi-structured topic guide. We purposively sampled doctors from six polyclinics in Singapore and used thematic analysis to identify emergent themes.</p> <p>Results We conducted twelve interviews. The study found that primary care doctors in Singapore had minimal exposure to digital health beyond the scope of institutional implementation. The three key themes which emerged were (1) evolving roles of both doctors and patients, (2) impact on trust, knowledge acquisition and longitudinal care, and (3) adoption and usage factors of digital health impacting patient-doctor relationship.</p> <p>Discussion & Conclusion The study identified that while primary care doctors had similar exposure and held mostly positive views on adopting digital health, they were concerned that they might erode trust, hinder proper knowledge acquisition and reduce humanistic interactions. These concerns called for a nuanced approach which could be achieved by ensuring that doctors possess the necessary skills, knowledge and positive attitude, while organisations would provide robust IT capabilities and support. We recommend that education be refined with the goal of strengthening of patient-doctor relationship.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1511	Family Medicine
<p>Authors X.R.NG¹, S.Z.SIM¹</p> <p>NHG Polyclinics (Singapore)</p> <p>Title Social support and its demographic correlates among older adults with multimorbidity</p> <p>Background & Hypothesis Social support is known to improve overall health of older adults with multimorbidity. However, little is known about the extent or demographics correlates of social support in Singapore to guide social prescribing. This study aims to describe the social support and evaluate its association with sociodemographic factors among older adults with multimorbidity in Singapore's primary care.</p> <p>Methods This is a post-hoc study utilising data from a cross-sectional study conducted from January to March 2022. 180 patients, aged 65 years and older with multimorbidity, were recruited. Duke Social Support Scale (DSSS) was used to measure total social support scores from family and non-family sources. Family, non-family and total scores were each converted to a scale of 0 to 100. Sociodemographic characteristics measured included age, gender, ethnicity, education, marital and dwelling status. Multiple linear regression was used to evaluate association of sociodemographic factors with social support.</p> <p>Results Mean age was 73.2±6.1 years old. 66.1% had living spouse, and 89.4% had children. DSSS mean total score was 37.0±16.4. Mean family and non-family scores were 38.1±19.9 and 23.7±18.9 respectively. Difference between family and non-family scores was statistically significant (14.4,95% CI 11.2-17.5). Better social support was associated with marital status (β-coefficient 0.271,95% CI 4.38-14.31) and higher educational level (B-coefficient 0.198,95% CI 1.71-11.26)</p> <p>Discussion & Conclusion Social support came more from family than non-family sources. Patients receiving better social support were more likely to be married and of higher educational level. Social prescribing efforts to improve social support may be needed for patients who are non-married and of lower education level.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1545	Family Medicine
<p>Authors S.C.LEE¹, K.W.KEE¹, L.Y.TAN¹, NHG Polyclinics (Singapore)</p> <p>Title Case Series of Supra-therapeutic INR Value</p> <p>Background & Hypothesis Warfarin is commonly used in patients to prevent or treat venous thrombosis and thromboembolic events. It has a narrow therapeutic range and constant monitoring of INR is required. Many factors can affect INR levels and thus management can be challenging.</p> <p>Methods This is a retrospective case note review of 10 patients with supra-therapeutic INR values of >4 who followed-up with Toa Payoh Polyclinic in year 2022.</p> <p>Results 10 out of 209 patients on warfarin who visited our polyclinic in year 2022 had supra-therapeutic INR>4. Their ages ranged from 59 to 88. All of them had at least 5 medical problems. A total of 14 visits with supra-therapeutic INR were recorded among these 10 patients. 5 patients were referred to Emergency Department and 4 required hospitalization. 9 visits resulted in dose adjustments and closer outpatient monitoring. Among the causes of supra-therapeutic INR, 4 were due to diet changes, 2 due to concurrent illnesses, 2 due to drug-drug interactions, 3 due to non-adherence to dosage regime, and no causes were identified in 3 visits. Of the 10 patients who were eligible for direct oral anticoagulant (DOAC), only 2 of them were offered DOAC and 1 declined. 80% self-manages medications.</p> <p>Discussion & Conclusion Our data revealed that the commonest causes of INR >4 are diet changes and concurrent illnesses. Besides patient education about diet and drug adherence, it is also important to remind physicians about closer INR monitoring for patients with intermittent illnesses or medications which might interact with warfarin, and consider switching patients to DOAC if eligible.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1590	Family Medicine
<p>Authors P.P.NG¹, DE ROZA J¹, Y.RAMA KRISHNAN¹, Y.L.LU¹, C.F.LEE¹, X.Y.LIM¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Factors affecting Health Literacy level among adults with chronic conditions: A Cross Sectional Study in Primary Care.</p> <p>Background & Hypothesis Health literacy is vital for effective patient engagement and improve health outcomes but factors associated with inadequate health literacy remains unknown. Understanding factors affecting health literacy allows customization of health education to the various health literacy group. Thus, this study aims to identify factors associated with health literacy among adults with chronic conditions in primary healthcare.</p> <p>Methods A cross-sectional study of 246 patients aged 21 and above with at least one chronic condition were recruited using convenience sampling at 7 polyclinics over a period of 6 months in 2023. Self-administered survey comprised of demographic data and Newest Vital Sign (NVS), a nutrition label with six questions for health literacy screening. Total NVS score of 4 and above indicates adequate health literacy. Descriptive statistics and Chi-square test were used for data analysis.</p> <p>Results The median age was 63 years old (IQR=14.75). There were 52.7% male, 77.3% Chinese, 48.4% had tertiary education and 62.6% were employed. Only 38.6 % had adequate health literacy. Patients with tertiary education showed higher adequate healthy literacy at 57.1% compared to patients with secondary or primary education and below at 20.5% and 7.1%, ($\chi^2(2)=32.570$, $p<0.001$). No significant differences in health literacy groups for age, gender, ethnicity, or working status were observed.</p> <p>Discussion & Conclusion Lower health literacy level was found in secondary education and below, which highlights the need to ensure health education is tailored to their level to support them in aligning to the goals of transforming towards a healthier population in Singapore.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1601	Family Medicine

Authors

J.Y.CHEE¹, H.L.KOH¹, E.S.LEE¹, S.Y.TAN¹

¹NHG Polyclinics (Singapore)

Title Prevalence and Factors Associated with Musculoskeletal Pain amongst Primary Care Physicians in Singapore

Background & Hypothesis

Musculoskeletal pain is a common ailment affecting workers across industries, including healthcare workers. It has the potential to affect work performance and quality of patient care. Amongst the healthcare professions, studies (outside Singapore) reported a musculoskeletal pain prevalence of 20–91.2%. There is, however, a lack of studies looking specifically at primary care physicians. To address this knowledge gap, our study thus aimed to understand the prevalence of musculoskeletal pain and explore its associated risk factors, amongst public primary care physicians (PCPs) in Singapore.

Methods

We conducted a cross-sectional survey among PCPs practicing in a primary healthcare cluster. Data were collected using a self-administered web-based questionnaire which included demographic information and the Nordic Musculoskeletal Questionnaire.

Results

There were 193 PCPs in the study, where 174 (90.2%) reported the presence of musculoskeletal pain in at least one body region in the last 12 months. Most common sites of pain were the neck (72.5%), lower back (61.3%), and shoulders (50.3%). We found that females had a higher risk of musculoskeletal pain (OR 5.97; 95% CI 1.35 – 26.36) as compared to males.

Discussion & Conclusion

Our study demonstrated a high prevalence of musculoskeletal pain amongst our local PCPs, with the neck, lower back and shoulders being the most common sites of pain. Female gender was associated with higher risk of musculoskeletal pain. Further research can be conducted to explore risk factors for musculoskeletal pain and its impact on productivity and quality-of-care. This would help in development of preventive measures with the goal of reducing musculoskeletal pain amongst PCPs.

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1605	Public Health / Clinical Epidemiology
<p>Authors H.R.YAP¹, W.E.TANG¹ NHG Pharmacy (Singapore)</p> <p>Title Exploring adherence of anti-diabetic medication in a Singapore primary care setting using various calculation models of Proportion of Days Covered (PDC)</p> <p>Background & Hypothesis Analysing pharmacy databases has immense potential in understanding medication adherence. We compared PDC of anti-diabetic medication using 4 algorithms applied to a primary care database and studied factors associated with adherence.</p> <p>Methods 4 calculation models were done to calculate PDC for 789 patients with diabetes mellitus (DM) prescribed with anti-diabetic medication from 1st to 7th July 2016, using average-PDC method. Model 1a and 1b incorporated prescription and dispensation data whereas model 2a and 2b used dispensation data only. Model 1a and 2a used interval-based method where denominator was truncated at 30th June 2017. Model 1b and 2b used prescription-based method where denominator took into account the duration prescribed or dispensed by the last prescription in the study period. Gender, age at recruitment, race, number of chronic diseases, the years of DM and HbA1c levels and number of anti-diabetic medication classes were tested in univariate analysis. Stepwise selection method was used in the multivariate logistic regression model.</p> <p>Results Percentage of adherent patients (PDC≥80%) for model 1a, 1b, 2a and 2b were 64.1%,73.9%, 66.5% and 87.3%. PDC <80% were more likely to have HbA1c≥9%, odds ratio of 2.54, 2.69, 2.48, 3.33 for model 1a, 1b, 2a and 2b respectively. PDC <80% was also associated with being Malay/Indian and having ≥ 4 chronic diseases.</p> <p>Discussion & Conclusion Incorporation of prescription data and using interval-based methods may result in more patients classified as poor adherence. Poor control of DM, being Malay/Indian and having ≥ 4 chronic diseases, were associated with poor adherence of anti-diabetic medication.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1624	Family Medicine
<p>Authors Y.C.E.CHUA¹, Y.C.LIN¹, J.M.L.GOH¹, J.H.WAN¹, Y.S.LIEW¹, H.N.TAN¹, R.RAML², D.Y.L.NG¹, E.J.J.CHONG¹, W.S.W.SOON¹</p> <p>NHG Polyclinics (Singapore), ²Primary Care Academy (Singapore)</p> <p>Title Enhancing Primary Care for Adolescent Mental Health: Perspectives and Training Preferences of Primary Care Physicians</p> <p>Background & Hypothesis One in three adolescents in Singapore report internalising symptoms such as anxiety and sadness based on a 2022 national study. Primary care offers a promising setting for the cost-effective management of adolescent mental health (AMH). We aim to enhance primary care for AMH management, starting with understanding the perspectives and training preferences of primary care physicians (PCPs) specific to AMH.</p> <p>Methods PCPs from the National Healthcare Group Polyclinics were surveyed from September 2022 to October 2022. Respondents rated agreement to statements about their confidence to diagnose and manage AMH on a 5-point Likert scale (1=Strongly disagree; 5=Strongly agree). They selected relevant challenges faced, and AMH topics they wished to receive training in.</p> <p>Results Seventy-nine PCPs responded. Mean confidence level in diagnosing AMH issues was 3.28 (SD=0.85), with “most adolescents are not upfront with their mental health issues” (63.3%, n=50/79) being the top challenge faced. Mean confidence level in managing AMH was 2.95 (SD=0.86), with “lack of time” (51.9%, n=41/79) being the top challenge faced. Thirteen (17.1%) felt that they were supported to manage AMH, and sixteen (20.2%) felt that they are adequately well-trained in AMH management. Fifty-five (69.6%) were keen on receiving further training on AMH, particularly in depression (73.4%, n=58/79), anxiety (65.8%, n=52/79) and digital addiction (59.5%, n=47/79).</p> <p>Discussion & Conclusion PCPs encounter challenges that impede their confidence in diagnosing and managing AMH. Most feel they lack support and training to do so. Addressing these challenges encountered by PCPs is crucial for the advancement of AMH services within primary care.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1631	Family Medicine
<p>Authors Y.C.E.CHUA¹, Y.C.LIN¹, J.M.L.GOH¹, Y.S.LIEW¹, H.N.TAN¹, J.L.ZENG¹, D.Y.L.NG¹, H.M.MAK¹, R.RAML², J.Z.T.ONG¹, J.H.WAN¹, E.J.J.CHONG¹, W.S.W.SOON¹ NHG Polyclinics, (Singapore), ²Primary Care Academy (Singapore)</p>	
<p>Title Exploring Gaps in Youth Mental Health Support: Perspectives and Aspirations</p>	
<p>Background & Hypothesis The Singapore Mental Health Study conducted in 2016 revealed a significant association between younger age and mental disorders and recommended the need for targeted interventions for this vulnerable group. We aim to understand the perspectives and aspirations youths have towards mental health support in terms of a self-help tool.</p>	
<p>Methods We conducted a survey among twenty-seven 17-year-old students from a junior college in July 2022, asking them two open-ended questions: (1) "What do you feel is lacking in current available resources on the internet, school, community in terms of support for youth mental health issues?" and (2) "In terms of a self-help tool, what content do you feel youths would find helpful?". Qualitative analysis of the responses was performed using the traditional content analysis approach to identify recurring themes within the responses. Segments of text were labelled with meaningful descriptors and grouped into themes and the frequency was analysed.</p>	
<p>Results Eleven and nine themes were identified from the responses to Question 1 and Question 2 respectively. Eight common themes were identified, with the top 3 themes being "Education/awareness/information", "Personal connection/relatability/shared experience" and "Guidelines/practical tips" in descending frequency.</p>	
<p>Discussion & Conclusion The study reveals that current resources have gaps, and youths have specific preferences for self-help tools. These preferences encompass improved education, awareness, and information on mental health, the value of personal connections and shared experiences, and the desire for practical guidelines and tips. Addressing these themes through targeted interventions could effectively provide mental health support for this vulnerable group.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1645	Family Medicine
<p>Authors H.L.KOH¹, P.S.S.LEE¹, E.S.LEE¹</p> <p>NHG Polyclinics (Singapore)</p> <p>Title Patients with multimorbidity – Who are more likely to have subsyndromal depression and anxiety?</p> <p>Background & Hypothesis Multimorbidity is prevalent in primary care and commonly associated with mental illnesses such as depression or anxiety. However, no studies have investigated subsyndromal depression (SSD) or anxiety (SSA), which are defined as having some symptoms of depression and anxiety respectively but insufficient to diagnose clinically. We aimed to identify factors associated with SSD and/or SSA in patients with multimorbidity. We hypothesised that the more severe the multimorbidity, the more likely one would have SSD and/or SSA.</p> <p>Methods This was a cross-sectional study targeting patients with multimorbidity [hyperlipidaemia, hypertension, diabetes (HHD)] at Hougang Polyclinic. Consented participants were invited to complete the Patient Health Questionnaire 9 (depression), Generalised Anxiety Disorder 7 Questionnaire (anxiety) and provide self-report of additional chronic conditions and socio-demographic information. Clinical control of HHD, record of additional chronic conditions and number of chronic medications were extracted from their electronic medical records (EMR). Analyses were conducted using multinomial logistic regression with SPSS v29.</p> <p>Results 932 patients were recruited (Mage=64.5, SD=8.5, Nmale= 513). 'Not being married' and 'self-report of two or more additional chronic conditions' were associated with higher odds of SSD and/or SSA ($p < 0.05$). Additionally, having an additional chronic condition count in EMR was associated with SSA ($p = 0.03$).</p> <p>Discussion & Conclusion Contrary to our hypothesis, we did not find a relationship between the severity of multimorbidity (HHD control) with SSD and/or SSA. For patients with multimorbidity, marital status, self-reported and EMR-reported number of additional chronic conditions were associated with SSA and/or SSD. Further research is needed to confirm the findings.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1680	Family Medicine
<p>Authors J.R. RAMASAMY¹, N. MAGANLAL¹, E.Y. TAN¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title A retrospective analysis of management of patients with a closed un-displaced fractures of metatarsals and phalanges of the foot, who were referred to emergency department by Woodlands Polyclinic (NHGP)- Singapore, from March 2023 to May 2023.</p> <p>Background & Hypothesis Following up the management outcomes of patients with closed, un-displaced fractures of foot, referred to the Emergency department is important part of comprehensive patient care. It also helps planning and developing interventions at primary care for minor closed, un-displaced fractures. Hypothesis- Closed, un-displaced fractures of metatarsals and phalanges can be managed at primary care by Family physicians.</p> <p>Methods This retrospective study included following up of the electronic case notes of a total of 16 patients who were referred to emergency department. The data was studied from March 2023 to May 2023. The data obtained was analysed by gender, age group, mode of injury and management at emergency department.</p> <p>Results Among the 16 patients, 56%(n=9) were male and 44%(n=7) were females. 62 % of the patients(n=10) were 51 years and above. 87% of the patients(n=14) were managed conservatively. These patients were referred to the Orthopaedic specialist outpatient clinic after conservative management, with a mean waiting time of 2 weeks. 80%(n= 13) were secondary to a trauma and 20% (n=3) were sports related injuries.</p> <p>Discussion & Conclusion All the cases of closed fractures of foot referred to the Emergency department were managed conservatively with crepe bandages, buddy splints, slabs, and aircast boots. A pilot program at polyclinic can be planned and implemented for management of closed un-displaced fractures of metatarsals and phalanges by trained family physicians and refer them to the Orthopaedic clinic directly. This will enable saving of time and cost for patient and reduce overcrowding at emergency department of restructured hospitals.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1706	Family Medicine
<p>Authors X.NG¹, PSS.LEE¹, SY.TAN¹, GTY.DING¹, ES.LEE¹, SZ.SIM¹</p> <p>¹NHG Polyclinics (Singapore)</p> <p>Title Examining the Factors Associated with Intrinsic Capacity in Older Adults with Multimorbidity in a Primary Care Population</p> <p>Background & Hypothesis Deficits in intrinsic capacity (IC) are prevalent in the multimorbid population and are associated with functional dependence, frailty, and mortality. However, little is known about the social and socio-demographic factors associated with IC in a multimorbid primary care population. This study aimed to identify the factors associated with IC in older adults with multimorbidity to help design targeted interventions that maintain or improve their IC.</p> <p>Methods A cross-sectional survey was conducted in three polyclinics from August to October 2022. Participants aged 60 to 100 years old, walking independently, and with the most common multimorbidity triad in Singapore - hypertension, hyperlipidaemia, and diabetes mellitus were recruited. Data collected included IC, socio-demographics, loneliness, social participation, social support, multimorbidity, and frailty using various scales. The association between IC and various factors was determined initially using Mann-Whitney U and Spearman rank tests. Multiple regression was used to adjust for other factors.</p> <p>Results The study included 411 participants (mean age 69.8±6.2 years, 55% male). Robust frailty status had a median of four intact IC domains (IQR 2-5) while pre-frail/frail status had a median of three domains (IQR 0-5). Univariate analyses showed that all variables were associated with IC, but some were lost in the multiple regression. Only age (p<0.001), gender (p<0.01), ethnicity (p<0.001), social participation (p<0.05), frailty (p=0.01) and multimorbidity (p<0.01) remained statistically significant.</p> <p>Discussion & Conclusion Socio-demographics, social participation, frailty, and multimorbidity were associated with IC. Social participation is a modifiable factor and may be the main factor most suitable for targeted intervention to maintain or improve IC.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1729	Family Medicine
<p>Authors K.P.ONG², E.CHEN¹, E.S.G.OH², V.H.Y.TEO², D.W.L.NG², W.E.TANG², E.S.LEE²</p> <p>¹National Healthcare Group HQ (Singapore), ²NHG Polyclinics (Singapore)</p> <p>Title Tele-monitoring with Primary Tech-Enhanced Care-Home HbA1c Test (PTEC-HAT) - A Qualitative Study on Patients' Experiences</p> <p>Background & Hypothesis PTEC-HAT pilot programme is developed to empower patients with diabetes to perform remote HbA1c monitoring with supports. It integrates HbA1c home-test kits, smartphone app with build-in chatbot and completes with tele-consultation. Our study was conducted as part of the evaluation of the pilot implementation. It aimed to explore the experiences of diabetes patients who participated in PTEC-HAT, and identify the enablers and barriers of using various PTEC-HAT components.</p> <p>Methods Semi-structured in-depth interviews were conducted following purposive sampling. The interview guide was constructed with the guidance of Non-adoption, Abandonment, Scale-up, Spread and Sustainability of healthcare technologies (NASSS) theoretical framework. Interviews were audio-recorded and transcribed verbatim. Data saturation was achieved through thematic analysis.</p> <p>Results 12 patients completed interview. The supportive care-team, chatbot and IT team were found to be the catalyst for patients to complete PTEC-HAT journey and motivate patients to adopt beyond pilot phase. The enablers for using various PTEC-HAT components included reasonable level of digital literacy, previous exposure to health monitoring, positive reinforcement with instant generation of HbA1c, as well as the flexibility and convenience of PTEC-HAT. The key barriers included the long interval after training to the date of performing home test and the frequent issues in transmitting HbA1c result to care team, resulting in low motivation to repeat testing.</p> <p>Discussion & Conclusion Based on the patients' experiences, PTEC-HAT is a useful alternative to routine diabetes care. To boost the adoption and sustain the usage, efforts are required to increase the usability of the technological components and the affordability of the programme.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1736	Family Medicine
<p>Authors H.N.TAN¹, G.D.TAN¹, J.M.L.GOH¹, L.A.HUANG¹, J.L.ZENG¹, Y.S.LIEW¹</p> <p>¹NHG Polyclinics NHG Polyclinics (Singapore)</p> <p>Title End-of-life Care Preferences of Patients in Primary Care Setting</p> <p>Background & Hypothesis Advance Care Planning (ACP) is a series of voluntary and facilitated conversations for the patients and loved ones to plan for their future health and personal care, in line with their values, beliefs and goals of care. In line with MOH's efforts to support the facilitation of ACP conversations more upstream in patients' care continuum, NHGP piloted an ACP Programme in October 2017.</p> <p>Methods Care Coordinators, Care Managers and Doctors introduced ACP to suitable patients. Patients, who wish to discuss ACP will see the ACP Facilitators, who assist patients and their nominated healthcare spokesperson (NHS) complete the General ACP Form and publish patients' ACP, which will then flow into NEHR.</p> <p>Results 329 patients completed/published their ACP from May 2021 to June 2023. 93.0% opted for comfort-focused treatment, while 6.7% chose to continue with full treatment; 1 patient preferred left the decision to her spouse. 91.8% nominated a NHS with 51.0% nominating their child as their primary NHS, followed by 24.8% nominating their spouse. More female patients (69.9%) completed their ACP. 95.1% of patients were Chinese (95.1%) and half of the patients were under Teamlet care. 24.3% had Diabetes, 47.1% had hypertension and 59.6% had lipid disorder. 20.1% had diabetes, hypertension and hyperlipidaemia and 6.1% suffered a stroke. 28.6% did not have a chronic condition.</p> <p>Discussion & Conclusion ACP is best introduced and facilitated by healthcare professionals who have trusted relationships with patients. Embedding ACP in the routine care for chronic disease patients in NHGP is an opportunity to strengthen person-centred care.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Primary Care Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1744	Family Medicine
<p>Authors A. CHOW³, L.E.S.LEE², K. GRIVA¹ ¹Lee Kong Chian School of Medicine (Singapore), ²NHG Polyclinics (Singapore), ³Tan Tock Seng Hospital (Singapore)</p> <p>Title Factors influencing vaccination decision-making among late adopters of COVID-19 vaccines in Singapore</p> <p>Background & Hypothesis The COVID-19 pandemic adversely impacted Singapore with 1.7 million cases of infection reported. Despite the increased efficacy of messenger RNA (mRNA) vaccines and the vaccination-differentiated safe management measures imposed, some people delayed completing their vaccinations and only proceeded when non-mRNA vaccines were offered. This study aimed to identify public perceptions about vaccination of people who delayed vaccination, and identify factors that shaped their journeys from hesitancy to acceptance.</p> <p>Methods Individuals receiving the Sinopharm vaccine in primary care settings who agreed to participate completed a questionnaire. Individuals who agreed to be interviewed were contacted to complete the baseline interview, and the follow-up interview three months later. The semi-structured interview focused on COVID-19, vaccine technology and government policies. Interviews were recorded, transcribed, and analysed using thematic analysis.</p> <p>Results Most participants (n=179) felt they would not be infected with COVID-19 (74%) and would not experience serious health consequences if infected (57%). Most participants felt that non-mRNA vaccines were safer and more efficacious than mRNA vaccines (67%). Forty participants completed the baseline interview, and 36 completed the follow-up interview. Main themes from the analysis were changes in perception of COVID-19, experiences with COVID-19 infection, and changes in behaviour regarding the pandemic.</p> <p>Discussion & Conclusion The most beneficial way of addressing concerns and misconceptions about vaccines is to educate, enable and clarify doubts to help people make well-informed choices that are in the greatest interest of the individual, which ultimately benefits society. Our results can inform policymakers about managing vaccine hesitancy in future pandemics.</p>	