

Project Title

Clinical Impact of Video Consultation in Primary Care

Project Lead and Members

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Organisation(s) Involved

National Healthcare Group Polyclinics

Healthcare Family Group Involved in this Project

Medical, Allied Health, Nursing, Pharmacy

Specialty or Discipline (if applicable)

Family Medicine

Project Period

Start date: 09/05/2021

Completed date: 23/11/2021

Aims

To evaluate the clinical effectiveness of video consultation versus face-to-face consultation.

Background

See poster appended / below

Methods

See poster appended / below

Results

See poster appended / below

Lessons Learnt

1. Evaluation of the video consultation service requires a multipronged approach in the areas of clinical safety, cost effectiveness, patient & clinician satisfaction etc.
2. Over time, we hope to improve upon the impact of our work by having a longer evaluation period and expanding the scope of our evaluation to cover other areas.

Conclusion

See poster appended / below

Additional Information

This project attained Gold (Category: Singapore Primary Care Research Award (Oral)) at the Singapore Health & Biomedical Congress (SHBC) 2021

Project Category

Technology, Digital Health, Telehealth, Care Continuum, Primary Care, Chronic Care

Keywords

Video Consultation, Clinical Effectiveness, Comparative Effectiveness Research

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National Healthcare Group
POLYCLINICS

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INTRODUCTION

- Video consultation was implemented during the COVID-19 period
- A evaluation study was carried out as proof of value to mainstream video consultations in NHGP for chronic disease management

OBJECTIVES

To evaluate the clinical effectiveness of video consultation (VC) versus face-to-face (FTF) consultation

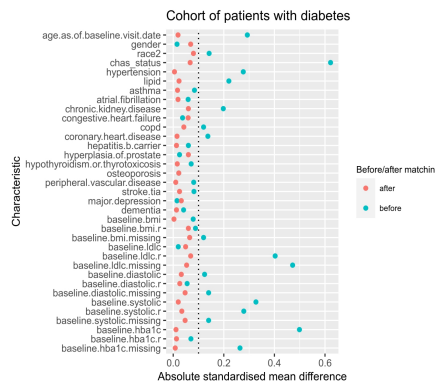
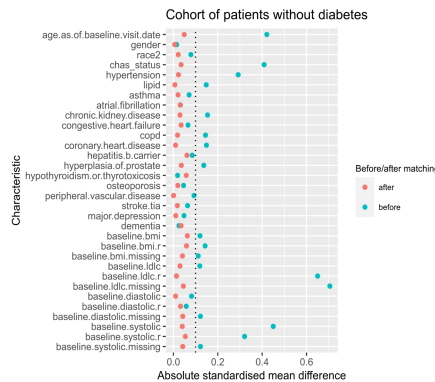
METHODOLOGY

- This was a retrospective observational study on propensity score-matched cohorts
- Inclusion criteria:
 - a) Had VC/FTF chronic doctor consultation between 7 Apr to 15 Aug 2020 (index visit)
 - b) Has diabetes, hypertension or hyperlipidaemia
- Exclusion criteria (VC): Did not successfully complete VC
- Exclusion criteria (FTF):
 - a) Had any video/telephone consultation in the 6 months of follow-up
 - b) Had any chronic doctor visit to FP clinic, memory clinic, health mind service at baseline/6-months follow-up
 - c) Was dispensed with warfarin in past 6 months before index visit
 - d) Had nebuliser treatment in past 3 months before index visit
- Our study outcomes were the 6-month clinical readings of HbA1c, systolic BP and LDL-cholesterol levels
- Propensity score matching was carried out to match FTF controls to VC patients (2:1 ratio, greedy nearest neighbour matching, without replacement, propensity scores estimated by multivariate logistic regression)
- After conducting propensity score matching, an absolute standardised mean difference of <0.10 is used as the threshold to access for adequate balance
- We considered the following as the treatment effect estimate¹ of VC compared to FTF:
 - a) Difference-in-differences, using linear mixed model: Difference in 6-month clinical readings between VC and FTF, compared against the corresponding difference at baseline
- Based upon the following non-inferiority (NI) margins, we evaluated the treatment effect estimates for non-inferiority in outcomes² between VC and FTF

Outcomes	Non-inferiority (NI) margin
HbA1c	+0.4%
Systolic BP	+5 mmHg
LDL-cholesterol	+0.26 mmol/L

RESULTS

Propensity score matching statistics



Matched cohort (without diabetes)		
Outcomes	Difference-in-differences (95% CI)	Within NI margin?
Systolic BP (mmHg)	-1.91 (-3.53 to -0.30)	✓
LDL-cholesterol (mmol/L)	+0.11 (-0.03 to 0.25)	✓

Matched cohort (with diabetes)		
Outcomes	Difference-in-differences (95% CI)	Within NI margin?
HbA1c (%)	-0.06 (-0.17 to 0.05)	✓
Systolic BP (mmHg)	-1.01 (-3.03 to 1.01)	✓
LDL-cholesterol (mmol/L)	+0.01 (-0.14 to 0.16)	✓

CONCLUSIONS

- VC is non-inferior to FTF consultation in the follow-up period of 6 months. Further work needs to be done to evaluate the clinical effectiveness of VC over a longer term
- For comprehensive evaluation of VC, ongoing work is being done in the areas of:
 - a) Resource utilisation/costs
 - b) Clinical safety audit
 - c) Patient satisfaction & experience³
 - d) Perspectives of physicians, organisational implementers/leaders and policymakers³

REFERENCES

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