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The use of Telemedicine in the Management of Chronic Diseases in Small Island Developing States (SIDS): Case Study – Dominica

- Theme: 1. Digital Inclusion Health;
- Presenter: Dr. Benet C Henry MD, A-Medic Clinic: Dominica









Presentation Outline

- Research team
- Introduction
- Research methodology
- Research findings and outcomes
- Recommendations
- Conclusions



Research team



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Introduction



Research methodology

The research was a randomized controlled intervention study of two diagnostic groups of Diabetes (**DM**) and Hypertension (**HTN**) which are classified as chronic diseases. The inclusion of **100 participants** in the approved study began in **March - June, 2022**.

DM, HTN, DM + HTN and Control

Education & Consent

Inclusion and Exclusion criteria

Classification

The study consisted of a heterogeneous mixture to include the indigenous group; **25% youth**, **52% middle-age** and **22% geriatrics**; **female 79%** and **21% male**.

Anthropometric measurements, Blood Pressure, Blood sugar, Connectivity and Overall Patient Satisfaction of use of technology were analyzed

- Analysis of variance (ANOVA)
- Paired sample t-tests

Consultations

1, 2 & 3

Research findings and outcomes



Figure 1: Participants perception in the use of telemedicine in the management of DM and HTN

Impact on Health by Waiting Tme & Distance Waiting Tme 0-2Wks 3-4Wks 4-6Wks >7Wks Distance from Health Distance from Health Distance from Health Distance from Health Services Services Services Services Less than 30 More than 30 minutes minutes minutes minutes minutes minutes minutes minutes Very High Medi High Med High Ver) High Med Ver High Med Med Low Low Low High High Med Impact on Health Care

Figure 4: Impact of telemedicine in the management of DM and HTN by waiting time and distance from health services



Figure 2: Participants perception of the telehealth influence on the management of DM and HTN by connectivity



Figure 5: Impact of telemedicine in the management of DM and HTN by



Figure 3: Participants perception of the telehealth influence on the management of DM and THN by waiting time and distance waiting time

<u>Rho et al., (2015)</u>

Zhou et al. (2019)

Recommendations

- 1. The need to upgrade broadband services for improved connectivity of telemedicine services and incorporate satellite and GPS systems in healthcare,
- 2. The need to increase the accessibility and availability of e-health medical devices and technology for improved diagnostics, transfer and record of information,
- 3. To improve public/private partnerships in the development of telemedicine, and
- 4. To increase advocacy and education of telemedicine services in SIDS.
- The audience of recommendations: Policy Makers, physicians, telecommunications experts
- The implications of the study: Chronic disease healthcare is now more available, accessible and affordable through telemedicine.



- Telemedicine was an effective medium in the management of chronic diseases in Small Island Developing States (SIDS) during the COVID-19 pandemic.
- The digitization of health care optimized and aided the response to diagnosis, disease monitoring and management during and post the COVID-19 pandemic.
- Overall satisfaction was obtained in the management of hypertension and diabetes using a telemedicine platform in SIDS.

Limitations

- 1. Inadequate connectivity in particular rural and urban areas,
- 2. Lack of home medical monitoring devices,

Areas of collaboration for

consideration: Increase partnerships

for further research and development of telemedicine in SIDS.

- 3. Inadequate education of telemedicine services and chronic diseases management,
- 4. Patients response to the management of chronic diseases are reactive than preventive medicine,
- 5. Distractions during consultation,
- 6. Privacy and data security concerns were presented, and
- 7. Cultural tabou impacted negatively response of telemedicine services.