

Project Title

Effectiveness of Blood Pressure Educational Workshop and Activation Levels on Self-Management and Self-Monitoring amongst Residents Enrolled to Active Aging Centres in Singapore - A Pilot Study

Project Lead and Members

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Organisation(s) Involved

Tan Tock Seng Hospital

Healthcare Family Group(s) Involved in this Project

Allied Health, Ancillary Care

Applicable Specialty or Discipline

Cardiology, Nursing

Project Period

Start date: Not Available

Completed date: Not Available

Aims

To explore the level of patient activation on self-management of BP after a BP educational workshop conducted by a Community Health Team (CHT) nurse for residents attending an Active Aging Centre (AAC) in Central Singapore.

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Conclusion

See poster appended/ below

Additional Information

Singapore Health & Biomedical Congress (SHBC) 2023: Best Poster Award (Nursing) –
(Bronze Award)

Project Category

Care Continuum

Intermediate and Long Term Care & Community Care, Social Care, Population Health,
Physical Health, Preventive Health, Public Awareness

Keywords

Active Aging, Patient Activation, Hypertension, Blood Pressure, Prospective
Descriptive Study, Data Analytics, Cardiovascular

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HOSPITAL

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Background

Hypertension is highly prevalent in our local population⁽¹⁾, and self-monitoring of blood pressure (BP) is essential for the early detection of hypertension⁽²⁾. Improving patient activation levels could impact on self-management behaviours, enhancing motivation and self-efficacy in managing one's health and potentially preventing complications such as stroke and cardiovascular accidents⁽³⁾.

Aim

To explore the levels of patient activation on self-management of BP after a BP educational workshop conducted by a Community Health Team (CHT) nurse for residents attending an Active Aging Centre (AAC) in Central Singapore.

Methodology

Research Design: Prospective Descriptive Study

Sampling: Convenience sampling

Inclusion Criteria: Resident are required to be able to read and converse in simple English and can demonstrate on the use of BP machine.

Data Collection: Data was collected from 19 AAC attending residents who volunteered in response to a poster advertisement and provided verbal consent for participation. The residents received a 2-hour BP educational workshop with the following modules, namely 'Understanding BP', 'Management of BP' and 'Monitoring your BP'. Residents completed a set of self reported questionnaire administered at pre- and 1-month post-workshop which consists of 3 sections:

- I. Demographic assessment, self-reported knowledge on BP and self-reported understanding level on management of BP ; Self-reported BP monitoring frequency
 - 18-item questionnaire with multiple choice questions and Likert scale
 - Face validation by CHT clinical governance committee
- II. Patient Activation Level
 - Patient Activation Measure® (PAM®) 13 by Insignia was utilized
 - Validated tool consisting of 13 questions with 4 activation levels (Fig 1)
- III. Self-reported evaluation of the BP educational workshop
 - Adopted Likert scale with pictorial guide

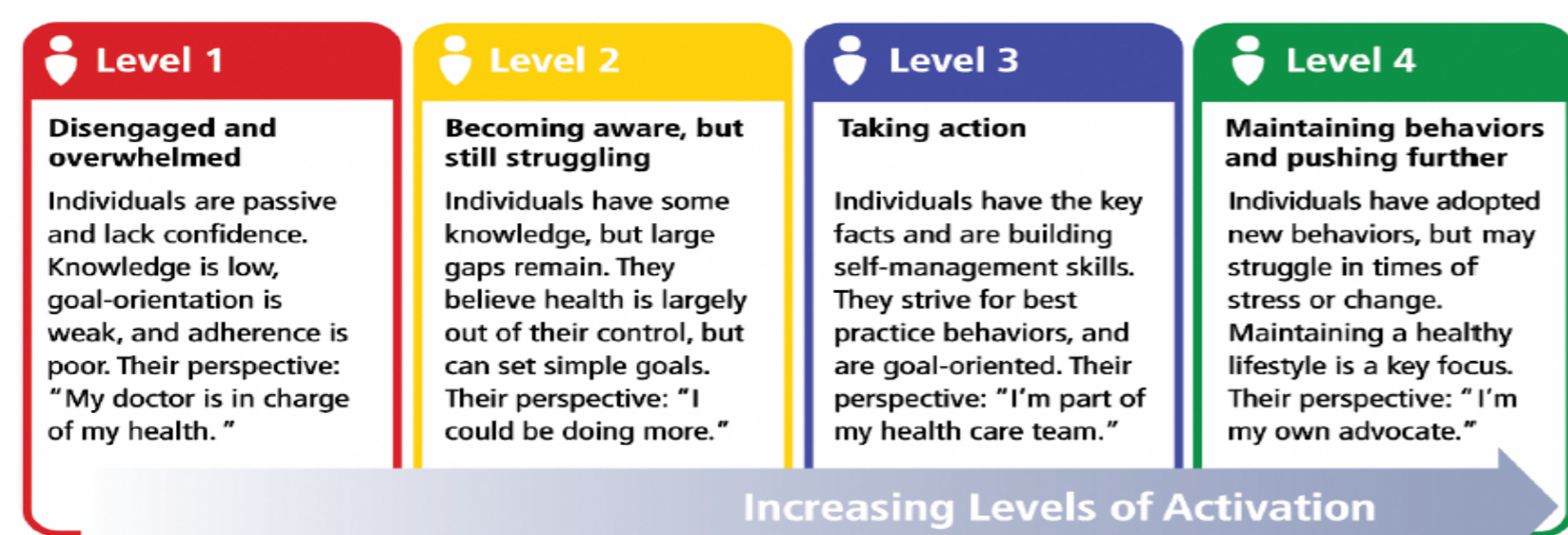


Figure 1 Patient Activation Measure® (PAM®) 13 by Insignia

Data Analysis: Data obtained from the 18-item questionnaire and self-reported evaluation of the BP educational workshop were entered into a statistical software, IBM Social Packages for the Social Sciences (SPSS) Statistics and descriptive statistics were analysed. PAM® 13 outcomes were also analyzed using Microsoft Excel.

Ethical Consideration

Data was collected and analysed with no patient identifiers; with access to the study team involved. Participation was voluntary and anonymous.

Results

89.5% (n=17) of the 19 residents (mean age of 70.9 years old) were reported to be diagnosed with hypertension prior to the workshop. 100% of the residents has increased understanding on the management of BP in at least 1 domain. The frequency of self-monitoring increased from a mean of 3.52 times a month pre workshop to a mean of 3.63 times a month were self-reported post workshop.

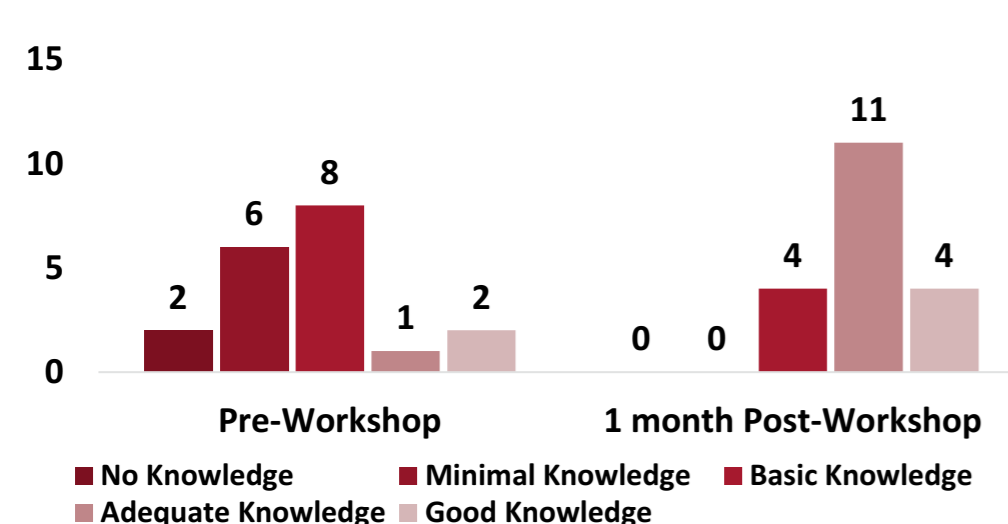


Figure 2 Residents' Self-reported Knowledge Level on Blood Pressure

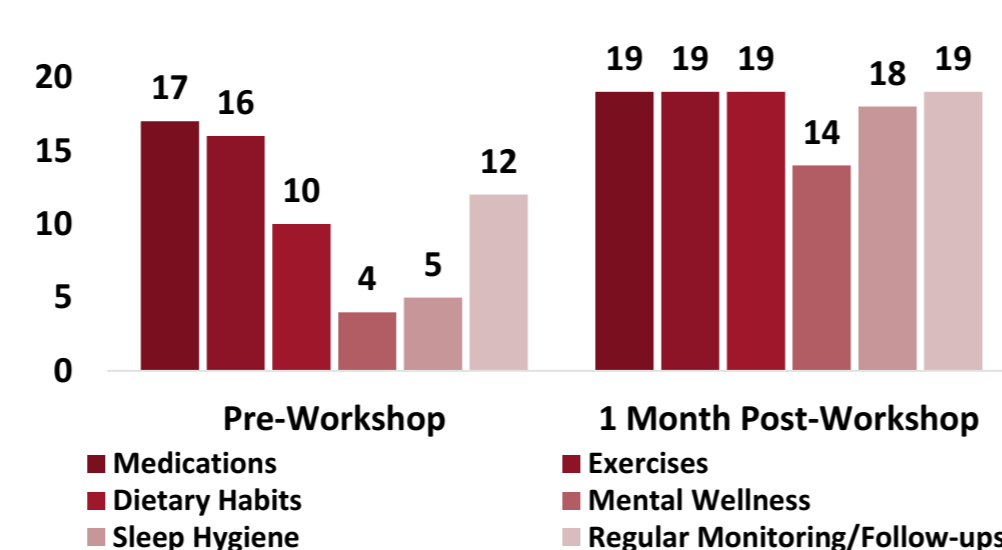


Figure 3 Residents' Self-reported Understanding Level on Management of Blood Pressure

The mean knowledge score were self reported to increase from 2.74 to 4.0 on the 5-point Likert scale (Fig 2). A self-reported increase in understanding level was noticed respectively in percentage: Medication (10.5%, n=2); Exercise (15.8%, n=3); Dietary habits (47.4%, n=9); Mental Wellness (52.6%, n=10); Sleep Hygiene (68.4%, n=13); Regular Monitoring/Follow-ups (36.8%, n=7) (Fig 3).

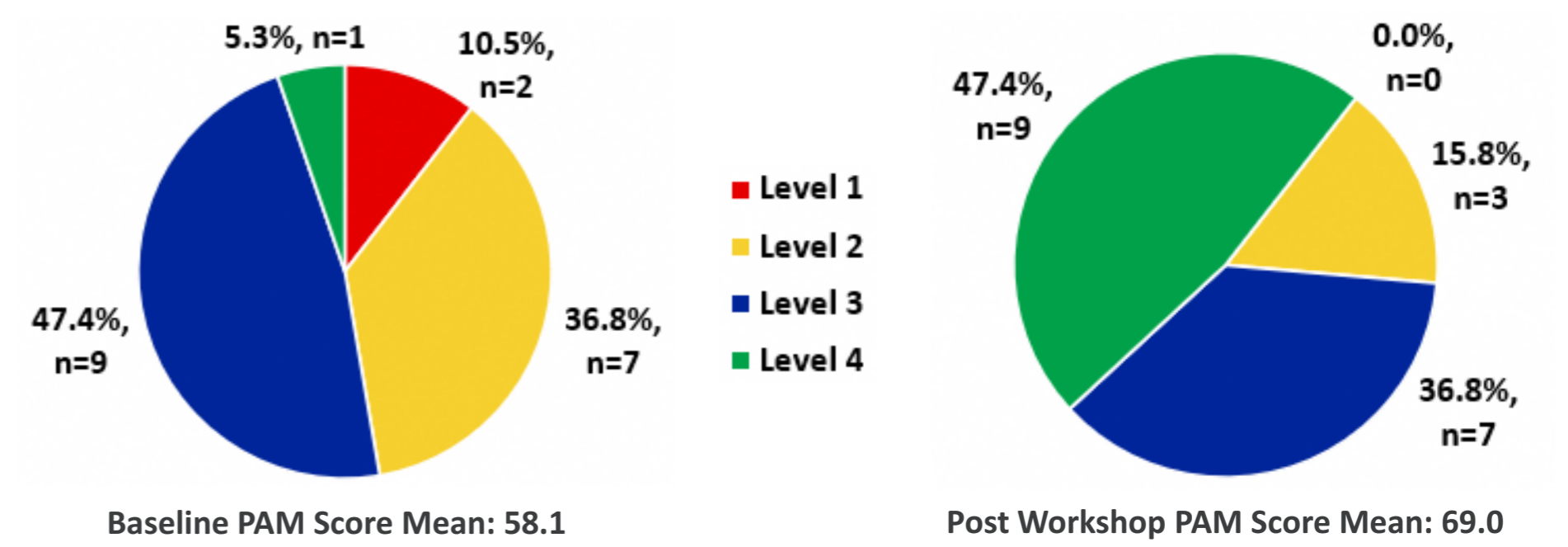


Figure 4 Baseline PAM Mean Scoring (N=19)

Figure 5 Post Workshop PAM Mean Scoring (N=19)

Results show that residents reported a mean activation score of 58.1 out of 100 pre workshop (Fig 4) and a mean activation score of 69.0 out of 100 post workshop (Fig 5). Among the 19 residents, there was a shift towards a greater proportion of residents with activation level 3 (36.8%, n=7) and level 4 (47.4%, n=9) and a decrease in numbers of residents with Level 1 (0%, n=0) and level 2 (15.8%, n=3).

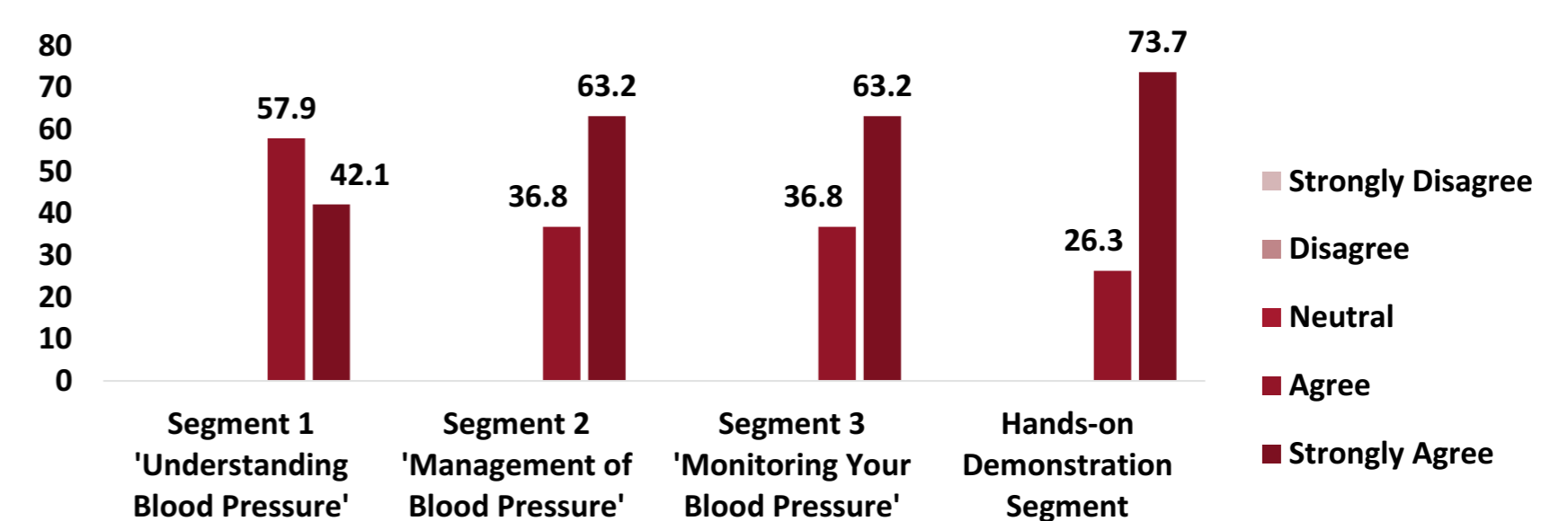


Figure 6 Residents' Self-reported Evaluation of the BP Educational Workshop

All residents graded both 'Agree' and 'Strongly Agree' that the workshop was delivered effectively in the Self-reported evaluation of workshop (Fig 6).

Discussion

The profile of residents in our study reported a higher prevalence of hypertension as compared to the national's average⁽¹⁾. Although, 89.5% of residents are reportedly aware of their diagnosed hypertension, it does not necessarily indicate that residents have a good knowledge level and understanding on management of BP pre-workshop.

There is an increase in self-reported knowledge score and the understanding level regarding management of BP, as observed post-workshop. Correspondingly, there is a higher mean frequency of self-reported BP monitoring post-workshop. These findings suggests that advocacy, education, reinforcing regular follow-ups, and encouraging self-monitoring can improve ones' knowledge and self-management of BP.

PAM®13 has demonstrated psychometric properties in assessing patient's knowledge, skills, and confidence in self-management of BP⁽⁴⁾. The mean activation score of 58.1 pre-workshop was reported to be the baseline of the residents, and the post-workshop average mean reported a higher scoring of 69.0. The increase in activation levels amongst the resident's post workshop suggests a possible correlation between self-efficacy levels, knowledge and understanding levels. This mean activation score is comparable to that of a local study which has a score of 58.8⁽⁵⁾.

All residents reported the workshop to be delivered effectively for all segments, with a notable strong consensus regarding the hands-on demonstration. This underscores the potential of experiential learning as an educational method which is worth further exploration.

Limitations and Recommendations

The study was conducted on a single-site, as such findings presented may not be generalisable to the other populations of residents in central region. Further similar studies can be conducted in different sites with other residents' profiles and community support. Other studies on resident's activation level, self-monitoring and self-management behaviour and their correlation with different population profiles and socio-economic factors are also recommended.

Conclusion

The BP educational workshop has a positive impact on residents' understanding level, translating into an increase of self-efficacy and activation. However, future research still needs to further explore on possible gaps and barriers affecting activation in relation to self-management amongst local population.

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