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AMED (Japan Agency for Medical Research and Development)/Global Alliance for Chronic Diseases (GACD) Project:
MH11: Mental health promotion at workplace in low- and middle-income countries in Asia

Smartphone-based stress management programs for hospital nurses in Vietnam

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E-stress management for nurses in LMICs

• Work stress increases among nurses in Vietnam (Thu Nguyen et al., 2018) and other South East Asian low and middle-income countries (LMICs). Work stress also affects the quality of health care service in these countries (e.g., Saimasi et al., 2015)

• E-stress management prevents work stress among nurses (Hersch et al., 2016), but no study was done in LMICs. Also a challenge exists in low participation/completion rate: 7-42% in the real world (Fleming et al., 2018).
Aims of the project

1. Effectiveness study: To investigate effects of two e-stress management programs (ABC Stress Management) among nurses in Vietnam on depression/anxiety.

2. Implementation study: To investigate comparative implementation between two types of e-stress management programs.

3. Dissemination: To investigate strategies to disseminate the program to nurses in Vietnam.
ABC Stress Management Programs

- Six-week six-module programs
- Based on previous programs developed in Japan (Imamura et al., 2014; Sakuraya et al., 2017)
- Accessible from smartphones (android or i-phone)
- Include a dialogue between a counselor and a nurse guiding the learning
- Two types: Free choice & fixed order
Adaptation of the programs to the target population

- Translation to the local language
- Hearing from chief nurses of the target hospital to adjust the content of the programs
- Review by collaborators at the Hanoi University of Public Health (HUPH)
- Collecting opinions from about 50 senior nurses of the target hospital on the programs
Baseline survey (T1)
All registered nurses in Bach Mai hospital n=1,269
951 (75.8%) returned the baseline questionnaires
Excluded (N=11)
1) Plan to change or quit the job in the next 7 months. (n=11)
2) Assistant nurses and helpers. (n=0)
3) Non-regular or part-time employed. (n=0)

Random assignment n=951

Assigned to program A
n=317
* Drop 1 case because of duplication

At 3-month follow-up (T2)
n=292 (92.1%)
9 on maternity leave
1 on sick leave
15 did not return Q

At 7-month follow-up (T3)
n=288 (90.8%)
317 were analyzed

Assigned to program B
n=316

At 3-month follow-up (T2)
n=294 (93.0%)
15 on maternity leave
7 did not return Q

At 7-month follow-up (T3)
n=294 (93.0%)
316 were analyzed

Assigned to control
n=316
* Drop 1 case because of duplication

At 3-month follow-up (T2)
n=297 (93.9%)
7 on maternity leave
11 did not return Q

At 7-month follow-up (T3)
n=291 (92.1%)
316 were analyzed

Participant flow chart of the 3-arm randomize controlled trial
## Process/implementation outcomes

<table>
<thead>
<tr>
<th></th>
<th>Program A</th>
<th>Program B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of all six modules (at 10 weeks)</td>
<td>83.3%</td>
<td>86.1%</td>
</tr>
<tr>
<td>Satisfaction with the program (at 3 month)</td>
<td>86.9%</td>
<td>82.6%</td>
</tr>
<tr>
<td>Adverse events or harm related to the use of the programs (at 7 month)</td>
<td>4.4%</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

Note: No significant difference between the program A & B groups (p>0.05).
Effect of the programs on depression and anxiety of nurses

Depression improved at 3 month follow up marginally significantly for the programs B compared to the control (p=0.057 with a repeated mixed model analysis; Cohen’s d=0.18).
## Dissemination effort – involvement of stakeholders

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Initial phase (the opening ceremony), March 2018</th>
<th>Mid phase (a capacity building workshop), March 2019</th>
<th>Final phase (a dissemination conference), October 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>Representative of MoH (Health Environment Management Agency)</td>
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<td>Representative of MoH (Health Examination and Treatment Agency)</td>
</tr>
<tr>
<td>Non-government stakeholders</td>
<td>Heads (or heads of Department of Nurses) of Hospitals; Heads of Nursing Schools; Representative of Medical Universities/Faculties. Representative of MoH staff</td>
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SUMMARY

• Nurses are an important healthcare workforce in the aging society, but they are under stress. Stress management of nurses is important to improve health and well-being of nurses and the quality of healthcare provided by them.

• The ABC Stress Management Program is an effective and low-cost approach in reducing depression and improving work engagement of nurses working in a hospital.

• We are in a phase to search a step-by-step strategy to disseminate the ABC Stress Management Program to all nurses in Vietnam.