Knowledge and perceptions on high blood pressure risk, healthy lifestyles, and use of mobile phone in 3 Latin American countries

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BACKGROUND

- Cardiovascular disease (CVD) is the primary cause of death in Latin America (28% of all deaths).
- Nearly half of the adult population in Latin American urban settings has abnormally high blood pressure, the more prevalent risk associated with CVD.
- Preventive interventions for high blood pressure (HBP) are urgently needed in developing countries.
- mHealth is emerging as a useful tool to address several healthcare system constraints in the developing world.
- Mobile cellular subscriptions per 100 people are over 100 in many Latin American countries.
OBJECTIVE

To assess perceptions and knowledge on high blood pressure risk, healthy lifestyle, and use of mobile phone for health advice among adults living in urban areas in Argentina, Peru, and Guatemala.
METHODS: Focus group discussions

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Guatemala</th>
<th>Peru</th>
<th>Argentina</th>
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</thead>
<tbody>
<tr>
<td>Women</td>
<td>30-44</td>
<td>1</td>
<td>1</td>
<td>2</td>
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<td></td>
<td>45-60</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Men</td>
<td>30-44</td>
<td>1</td>
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<td></td>
<td>45-60</td>
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<tr>
<td>TOTAL</td>
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<td>4</td>
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5-13 healthy subjects in each FGD, from poor urban settings.
## METHODS: Thematic analysis

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-theme</th>
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<tbody>
<tr>
<td>High blood pressure</td>
<td>Symptoms</td>
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<td>Consequences</td>
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<td>Causes</td>
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<td>Suggestions</td>
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<td>Healthy lifestyles</td>
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<td>Diet</td>
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<td>Adoption</td>
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<td>Limiting and promoter factors</td>
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<td>Use of mobile phone</td>
<td>Use and acceptability</td>
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<td>Frequency and availability</td>
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<td></td>
<td>Usual habits and problems with its use</td>
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<td>SMS</td>
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<td>Phone calls</td>
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Data was analyzed by country, gender, and age
RESULTS

✓ No relevant differences were found among countries and age groups.
RESULTS: High blood pressure

✓ Lack of knowledge on how to recognize HBP, although several people recognized it as a “a silent disease” and “disease that has no symptoms”

✓ **Men and women** related HBP to salt intake, stress, being over 50 yrs and to a cause of death.

✓ **Women** also related HBP to menopause, pregnancy, and breastfeeding

✓ To avoid the disease, several lifestyle and self-care practices as well as self-esteem were mentioned
  
  “Have a moderate life”  “loving yourself and our family”
  “Do not wait for sickness to eat healthy”
RESULTS: Healthy lifestyles

✓ Men and women expressed differences in food preparation and eating habits. Men said that food from home is healthier.

✓ Fruit and vegetables were reported as healthy food in all groups, as well as junk food and food bought in the street as unhealthy.

✓ Barriers identified to follow a healthy diet were: income, knowledge, overeating, and time. Men also mentioned eating away from home as a barrier.

   “Due to the economic issue that you're living you can not do a strict diet”

✓ Subjects requested information about preparation and combination of healthy foods.
RESULTS: Healthy lifestyles

✓ Men and women perceived physical activity and exercise as something that make you feel and look good, as a healthy habit, and that family support is an important factor to do exercise.

✓ **Barriers** identified for being physically active were: lack of will, time management, and work.

✓ Women see exercise as a group activity and men more as a structured activity.

  Women: “I do dance with my husband”, “...sometimes I say to my neighbor "let's go for a walk" because I live across from a green area”

  Men: “Playing sports is to play a little game, volleyball” “I think that playing ball and running is good exercise”
RESULTS: Use of mobile phones

✓ All subjects perceived their mobile phone as a daily necessity.
   “Mine I never leave it, even at night I have it in hand... because I said, for any emergency”

✓ Men tended to be more possessive with their mobile phone, while women more often shared it with other family members.

✓ SMS can be read several times and share with others.

✓ Mobile phone cost has been incorporated into the family/personal budget.
   “Is a necessary evil”
CONCLUSIONS

- Gender differences in perceived HBP risk, food preparation, eating habits, and physical activity choices should be specifically addressed in an intervention.
- Mobile phones seem to be a useful tool to deliver health advice.
PUBLIC HEALTH IMPLICATIONS

• mHealth might be a useful tool for lifestyle modification to prevent HBP.

• A better understanding is needed on:
  – How to use mHealth for health promotion and disease prevention
  – Find ways to incorporate knowledge of context and culture in effective mHealth prevention programs
  – Strategies to overcome language and literacy barriers
  – Techniques to provide effective health messages through SMS and telephone coaching
ON-GOING RESEARCH STUDY

- **Primary aim**: To determine the effects of mHealth strategies in a multi-country, one-year randomized control trial comparing intensive education for lifestyle modification to standard care in 30-60-year-old individuals with pre-hypertension.

- The intervention includes weekly SMS and monthly telephone calls (motivational interview) to promote lifestyle modification, focused on reducing blood pressure.
Thank you!

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