PRESENTING AUTHOR'S NAME & RESEARCH TITLE

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Implementing the **MOBI**LE Intervention in College Students with Elevated Blood Pressure

PURPOSE/BACKGROUND

Hypertension is a known risk factor that accelerates and leads to cardiovascular disease. While it is often a risk factor recognized in middle-aged and older adults, it is overlooked in young adults. The purpose of this study wasto (1) implement a mHealth intervention, the **O**ptimize **B**lood Pressure **I**mprovement (**MOBI**LE) intervention, in college students, aged 18 to 29 years, with elevated blood pressure (BP); and (2) test its feasibility and impact on BP reduction (primary outcome) along with sodium intake and hypertension knowledge improvement (secondaryoutcomes) after 28 days

MATERIALS & METHODS

The pilot study used a two-arm, randomized controlled trial. Subjects in the intervention group were required to monitor their daily BP. We recruited full-time students who had regular access to a mobile smartphone with unlimited texting and elevated BP or undiagnosed hypertension stage I. We excluded students who were pregnant,lactating, planning to become pregnant during the study, taking antihypertensive medication, or diagnosed with a life-threatening illness or condition associated with hypertension.

We conducted the formative phase before the intervention phase to assess the acceptability, engagement, and feasibility of the intervention motivational text messages. During the educational session for baseline data, all subjects completed a sociodemographic questionnaire, the Automated Self-Administered 24-Hour Dietary Assessment Tool (ASA24), and the Hypertension Knowledge-Level Scale. Following, all subjects' height and weight were also collected to calculate body mass index. For 28 days, subjects in the intervention group provided their daily BP measurement using the Withings wireless BP cuff and their motivational levels (1 for low motivation, 3 for moderate motivation, and 5 for high motivation) to receive the appropriate text message. After 28days, all subjects were scheduled for an exit interview to collect post intervention data along with an exit interview. The control group completed the educational session and exit interview only.

RESULTS

Twenty-nine participants (intervention: $n = 15$; control: $n = 14$) completed the study. We found a significant decrease in BP in the intervention group ($p = 0.001$) while no statistical significance was found in the control group. Using the ASA24 to extract sodium intake, there was no statistical difference in sodium intake for intervention or control groups. The mean hypertension knowledge score increased in both groups after 28 days;however, the improvement was only significant for the control group ($p = 0.001$).

DISCUSSION/CONCLUSION

The results provided preliminary data on the effect of BP reduction in both groups with more impact on the intervention group. These promising findings warrant further examination of the intervention and its long-termeffects.