

Missing virtual health appointments in Saudi Arabia: A randomized experiment testing the effect of written commitment device on attendance

Background

Missed health appointments are disruptive to the healthcare delivery system, leading to adverse health outcomes, misspend of healthcare resources, and underutilization of administrative and medical capacities. The objective of this study is to determine the efficacy of using a commitment device intervention to improve attendance and adherence to virtual clinic appointments among patients in Saudi Arabia.

Methods

A two-arm randomized controlled trial assessed the efficacy of a consent form to nudge patients to attend their next virtual clinic appointments in Hafr Albaten directorate in the eastern region of Saudi Arabia. The eight primary healthcare centers were selected randomly selected. The eight primary healthcare centers were randomly and equally assigned into control and intervention groups. Appointments attended in each group were compared using chi-square tests.

Results

Based on the 556 total virtual appointments, the result of the chi-square test ($X= 2$ 16.1, $p < .001$) indicated a significant between control and intervention groups. The intervention leads to decrease the no show rate in the virtual appointments from 67.2% to 50.3% which result in improving the virtual clinic utilization by 16.9.

Conclusion

Using commitment approach can be a useful method to nudge people to attend their virtual appointments. Health policy can be improved using such behavioral interventions which can help the leaders in the health sector to address the behavioral challenges that face their services.



Comparing knowledge and attitudes toward deceased organ donation between registered vs. nonregistered donors in Saudi Arabia: A national assessment

Background

Deceased organ donation holds a great potential to save thousands of lives. But despite the high demand for transplantation and the easy access to registration, registration as deceased donors remains quite low. Therefore, the objective of this study is to assess attitudes and knowledge regarding organ donation after death. Acquiring such knowledge could enable policymakers and practitioners to formulate strategies and increase the number of donors.

Methods

Participants from all regions in Saudi Arabia were recruited to participate in an online study-specific questionnaire. The questionnaire assessed knowledge and attitudes and compared those measures among those who registered for organ donations versus those who had not. Independent t-test was used to analyze between-group differences.

Results

Data were collected from 3,111 Saudis older than 18 years with a mean age of 31.4 years (SD = 9.7). Most participants (70%) were not registered as deceased organ donors. The independent t-test showed a nonsignificant difference in the mean level of knowledge ($t = 1.2, p = .247$) between participants who registered and those who did not. The result of attitude indicated a statistically significant difference between the two groups ($t = -30.5, p < .001$).

Conclusion

The study revealed that Saudis' knowledge about deceased organ donation may not be driving their decision to register. Attitudes seem to be more influential in shaping that decision. Knowing this, public health practitioners might need to focus on initiatives that shift the public mindset and create a new social norm as opposed to providing facts and information.



Nudging parents increases children preventive screening: A mixed-methods study

Background

Late detection of preventable diseases negatively affect children's health and overwhelms the healthcare system. Student screening clinics are widely available and accessible, yet parental engagement is suboptimal. The objective of this study is to examine the efficacy of SMS reminders to increase utilization of screening clinics.

Methods

A mixed-methods study design was employed to assess the efficacy of sending behaviorally informed SMS reminders in increasing parents' utilization of screening clinics. Three unique SMS were sent to parents at 1-week interval. A pre-post measurement assessed the percentage of participating parents who booked an appointment for their children in the students' health screening clinics at a public elementary school in Riyadh, Saudi Arabia. Additionally, a qualitative investigation through semi-structured phone interviews contextualized our understanding of the efficacy of the SMS intervention and explored the barriers and facilitators for service utilization.

Results

Of the 117 participants, 56.4% had already booked an appointment at baseline, and this percentage increased to 65.8% after intervention, a 9.4% statistically significant increase ($p < .001$) in the number of participating parents who booked an appointment after receiving the three SMS reminders. Qualitatively, three themes emerged from the phone interviews: SMS effectiveness, perceived barriers, perceived facilitators.

Conclusion

SMS reminders hold a promising effect in increasing parents' compliance to school screening visits. Given the low cost of such an intervention, it is recommended that school administrators and state officials take an active approach to nudge citizens beyond traditional means (e.g., awareness campaigns and memoranda) to close any intention-to-action gaps.



The effect of partitioning on food consumption: A randomized controlled trial

Background

The prevalence of obesity is linked to portion size. Reconstructing food packaging in partitions introduces a decision point in consumers' decision-making processes, leading to deliberation attention over consumption. The objective of this study was to measure the effectiveness of partitioning on food consumption.

Methods

Undergraduates from the College of Health and Rehabilitation Sciences at Princess Nourah University participated in a single-blinded, two-arm randomized control trial. Participants were invited to a one-hour workshop disguised as health informative session, while conducting the experiment. During the experiment, students received a box with nine individually wrapped chocolates (treatment group) or nine unwrapped chocolate pieces (control group). Following the workshop, students were asked to fill a questionnaire evaluating the chocolate taste, current diet, and allergy. Meanwhile, researchers counted the consumed chocolates for both control and intervention groups for analysis.

Results

Shown revealed by an independent t-test, participants in the treatment condition ($M = 1.10$, $SD = 1.31$) consumed less chocolate compared to the control condition ($M = 1.97$, $SD = 2.9$), $t(128) = 2.3$, $p < .05$, 0.023% CI.

A multiple regression analysis was performed to predict the effect of partitioning after controlling for taste. The result of the multiple regression using Poisson, negative binomial, and zero-inflated models revealed that partitioning intervention significantly predicted the number of consumed chocolate pieces. Participants in the intervention group ate fewer chocolate pieces as compared to control group ($Beta = -0.80$, $p < 0.001$).

Conclusion

This study can help regulating unhealthy eating habits and obesity rates in many educational or organizational settings in Saudi Arabia.



A national nudge study of different framed messages to increase COVID-19 vaccine uptake in Saudi Arabia: A randomized controlled trial

Background

Vaccination against COVID-19 remains the best line of defense against the rampant disease. Despite the freely available, easily accessible, and effectiveness of the vaccine, too many people in Saudi Arabia still have not taken the step to get vaccinated. The objective of this study is to assess the impact of different framed messages in nudging citizens to take their first dose.

Methods

This is a multi-arm randomized-controlled trial examining the efficacy of the following five types of messages: commitment, loss aversion, salience, social norms, and ego. Those messages were randomly assigned to a randomly selected sample of 7,547 individuals 18 years and older who previously pre-registered for COVID-19 vaccination but had no record of taking the vaccine. The main outcome was whether participants booked a vaccine appointment and was assessed days after the message was read. Chi-square tests compared the percentage of booked appointments between different intervention groups and the control group.

Results

All framings except commitment demonstrated a significant increase in the number of booked appointments compared to control. Specifically, the social norms framing group had the highest significant increase in the number of booked appointments (21.0%, $p=.001$) followed by the ego group (19.1%, $p=.011$), and the salience group (19.0%, $p=.013$) as compared individually against the control group. Sub-analyses indicated that younger adults responded higher than older adults to the social norms (22.6%, $p=.016$) and the ego framing (21.0%, $p=.010$).

Conclusion

Nudging through behaviorally framed messages is a promising, cost-effective tool to help improve COVID-19 vaccine uptake. Although, people respond differently to various framings, social norms and ego evoking messages seem to be highly relevant and effective.

