The Association between Health Information Seeking and Behavior Change Related to Physical Activity among Qatari Adolescents

Lamesh A.M. Ali, MBBS, MSc, MPH1; Salma Khaleed, PhD2; and Manar Abdel-Rahman, PhD1.
1 Public Health Department, College of Health Sciences, Qatar University, Doha, Qatar
2 Social and Economic Survey Research Institute, Qatar University, Doha, Qatar

BACKGROUND

Physical activity (PA) in teens has substantial benefits for their wellbeing and health which can extend to their adulthood (1,2). However, an astounding majority of adolescents worldwide (3) and in Qatar (4) do not meet the minimum one hour of moderate-to-vigorous intensity PA daily recommended by the World Health Organization. Seeking information on health topics, such as PA, is increasingly documented among teens (5-8), and may provide an opportunity for PA promotion.

Keywords: adolescents; health information seeking; physical activity.

OBJECTIVES

This study aimed at:
- Exploring health information seeking behavior among Qatari adolescents and
- Assessing the influence of information obtained from different sources on PA behavior change.

METHODOLOGY

- This is a secondary analysis of data from a nationally representative cross-sectional survey conducted in 2017 among 1050 Qatari students aged 13-19 years.
- Self-reported information on demographics, psychosocial factors, PA, and sources used to obtain health information were collected.
- Main outcome was the attempt to change PA behavior. Multiple imputation by chained equations (MICE) was performed to impute the missing values.
- Logistic regression analysis (purposeful selection method) accounting for survey design was carried out to examine the association between the outcome and information sources used to attempt PA change, and to find independent predictors for this attempt.
- The estimated average marginal effects (AME), also known as risk differences, were derived from the results of logistic regression model, to have a sense of the absolute effect size reflecting the difference in the probability of the outcome associated with a change in the explanatory variable, adjusting for all the other covariates.

RESULTS

- Teenagers in Qatar, specially girls, were not active enough.
- Nearly 68% of the respondents tried to change PA behavior (55% male versus 72% female), and 46% were physically active (55% males versus 38% females) (Table 1, Figure 1).
- About 89% of adolescents rated PA as an important topic for them personally (Table 1).
- Based on information from interpersonal, traditional, online, and social media sources about 65%, 55%, 51%, and 54% of adolescents respectively attempted to change their PA behavior (Table 1, Figure 2).
- Results from multivariable logistic regression showed that teens who used information from interpersonal and online sources to try to change their behavior had 9 times (OR=9.36, 95% CI: 4.15-21.08, P<0.001) and nearly 3 times (OR=2.53, 95% CI: 1.50-4.27, P=0.001) higher odds of change in PA, respectively (Table 2).
- The odds of attempting to change PA were 2 times higher among older adolescents (16-19 years) (OR=2.17, 95% CI: 1.37-3.44, P<0.002) and among teens who considered PA as important to them (OR=2.34, 95% CI: 1.13-4.84, P=0.023) (Table 2).
- The estimated AMEs of using information from interpersonal sources and online sources on the probability of attempting PA change were about 46 percentage point and 16 percentage point increase respectively (Table 3, Figure 3).
- For older adolescents and those considering PA important, the AMEs on the attempt to change PA were 11 and 14 percentage points respectively. All were sizable and significant differences (P<0.05) (Table 3, Figure 3).

CONCLUSIONS

- Physical activity level is still suboptimal among Qatari adolescents with obvious persistent gender gap.
- The results showed that interpersonal and online sources are important in fostering behavior change among Qatari adolescents, in addition to the influence of age and personal value of PA on initiating such changes.
- Policymakers can benefit from this research in designing appropriate PA interventions that adapt multiple delivery approach.
- It is recommended that future PA-related behavior change interventions in Qatar are age- and gender-sensitive and stress the importance and relevance of PA to teen’s health.

ACKNOWLEDGMENTS

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Conflict Of Interest: The authors declare no conflict of interests.

REFERENCES


Table 1. Characteristics of the participants.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean (SD)</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (in years)</td>
<td>14.60 (1.43)</td>
<td>14.50</td>
<td>11.00</td>
<td>16.00</td>
</tr>
<tr>
<td>Gender: Female</td>
<td>575.00 (575.00)</td>
<td>575.00</td>
<td>392.50</td>
<td>757.50</td>
</tr>
<tr>
<td>Total</td>
<td>1050.00</td>
<td>1050.00</td>
<td>1050.00</td>
<td>1050.00</td>
</tr>
</tbody>
</table>

Table 2. Multivariable logistic regression analysis of the attempt to change PA: Imputed data-final model (20 imputations, weighted N=887).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>95% CI</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>College</td>
<td>0.06</td>
<td>0.00</td>
<td>0.02</td>
</tr>
<tr>
<td>Gender: Female</td>
<td>0.10</td>
<td>0.00</td>
<td>0.01</td>
</tr>
<tr>
<td>Age</td>
<td>0.01</td>
<td>0.00</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Table 3. Average Marginal Effects for the Probability of Attempting PA Change.

<table>
<thead>
<tr>
<th>Sources as a Reason for Behavior Change</th>
<th>AME (Risk Differences)</th>
<th>95% CI</th>
<th>P value†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal</td>
<td>0.14</td>
<td>0.01</td>
<td>0.02</td>
</tr>
<tr>
<td>Traditional</td>
<td>0.10</td>
<td>0.05</td>
<td>0.01</td>
</tr>
<tr>
<td>Social Media</td>
<td>0.12</td>
<td>0.07</td>
<td>0.001</td>
</tr>
<tr>
<td>Traditional</td>
<td>0.10</td>
<td>0.05</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Figure 1. Attempt to change physical activity and physical activity in the past 30 days by gender.

Figure 2. Sources of information as a reason for behavior change.

Figure 3. 2D average marginal effects with Odds Ratio from fitted logistic regression- Estimates with 95% Confidence Interval.

Figure 4. 3D average marginal effects with Odds Ratio from fitted logistic regression- Estimates with 95% Confidence Interval.