**Supplementary Table. Quality Assessment of Studies on Physical Activity and Sedentary Behaviour in the Arabian Peninsula**

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| --- | --- | --- | --- | --- |
| **No.** | **Authors (Year)** | **Published Table(s)** | **Quality Assessmenta** | **Toolsb** |
| **Eligibility** | **Randomization****(Q: Sample selection)** | **Sample Description** | **PA/SB** | **Co-variates****(Q: Analysis and Interpretation** | **Total** | **Physical Activity (Type)c** | **Sedentary Behavior (Type)** |
| 1 | Abd-El-Fattah SM (2015)[1] | - | 1 | 0 | 1 | 1 | 0 | 3 | PASESA |  |
| 2 | Abdi S, Sadiya A, et al (2015)[2] | 2 | 1 | 1 | 1 | 1 | 0 | 4 | PA intervention |  |
| 3 | Abduelkarem A and Sackville M (2009)[3] | 5 | 0 | 0 | 1 | 0 | 0 | 1 | SDSCA (Total) |  |
| 4 | AboZaid HA and Farahat FM (2010)[4] | 4 | 0 | 0 | 1 | 1 | 0 | 2 | IPAQ-short (Total) |  |
| 5 | Al Daghri NM, Alokail MS, et al (2015)[5] | 2 | 1 | 1 | 1 | 1 | 1 | 5 | FIT index (Total) |  |
| 6 | Al Junaibi A, Abdulle A, et al (2012)[6] | 2 | 1 | 1 | 1 | 1 | 0 | 4 | IPAQ-short (Walking, Total) | IPAQ-short (TV/Computer, Total sitting) |
| 7 | Al Saif A and Alsenany S (2015)[7] | 2 | 0 | 0 | 0 | 1 | 0 | 1 | Exercise intervention |  |
| 8 | Al Saweer A, Salehi S, et al (2015)[8] | 2 | 0 | 1 | 0 | 1 | 0 | 2 | Exercise intervention |  |
| 9 | Al Thani MH, Al Thani A, et al (2015) [9] | 3 | 1 | 1 | 1 | 1 | 1 | 5 | GPAQ (Total) | GPAQ (Total) |
| 10 | Al-Doghether M, Al-Tuwijri A, et al (2007)[10] | 4 | 0 | 1 | 1 | 0 | 0 | 2 | Local tool (ND) |  |
| 11 | Al-Eisa ES and Al-Sobayel HI (2012)[11] | 4 | 1 | 0 | 1 | 1 | 0 | 3 | Pedometer (Total) |  |
| 12 | Al-Eisa E, Alghadir AH, et al (2016) [12] | 2 | 1 | 1 | 1 | 1 | 0 | 4 | Exercise intervention |  |
| 13 | Al-Eisa E, Buragadda S, et al (2014) [13] | 2 | 1 | 1 | 1 | 1 | 0 | 4 | Pedometer |  |
| 14 | Al-Eisa E, Al-Rushud A, et al (2016)[14] | 5 | 1 | 1 | 1 | 1 | 0 | 4 | Exercise intervention |  |
| 15 | Alghadir AH, Gabr SA, et al (2016) [15] | 2 | 0 | 1 | 1 | 1 | 0 | 3 | Exercise intervention |  |
| 16 | Alghadir AH, Gabr SA, et al (2015) [16] | 2 | 0 | 1 | 1 | 1 | 0 | 3 | Exercise intervention |  |
| 17 | Al-Ghawi A and Uaug R (2009)[17] | 4 | 0 | 1 | 1 | 0 | 0 | 2 | Local tool (Exercise, Attitude to counsel on PA) |  |
| 18 | Al-Ghimlas F, Subbramaniam K, et al (2014)[18] | 2 | 1 | 1 | 1 | 1 | 0 | 4 | Exercise intervention |  |
| 19 | Al-Haifi AR, Al-Fayez MA, et al (2013)[19] | 2 | 1 | 1 | 1 | 1 | 0 | 4 | ATLS (Total) | ATLS (TV/computer) |
| 20 | Al-Haifi AA, AlMajed HT, et al (2016)[20] | 2 | 1 | 1 | 1 | 1 | 1 | 5 | ATLS (Total) | ATLS (TV/computer) |
| 21 | Al-Hamdan NA, Al-Zalabani, et al (2012)[21] | 2 | 0 | 1 | 1 | 1 | 0 | 3 | GPAQ (Total) |  |
| 22 | Al-Hazzaa HM and Al-Rasheedi AA (2007)[22] | 3 | 0 | 1 | 1 | 1 | 1 | 4 | Pedometer | Local (TV) |
| 23 | Al-Hazzaa HM, Abahussain NA, et al (2011)[23] | 3 | 1 | 1 | 1 | 1 | 1 | 5 | ATLS (Total) | ATLS (TV/computer) |
| 24 | Al-Hazzaa HM, Abahussain NA, et al (2012)[24] | 2 | 1 | 1 | 1 | 1 | 1 | 5 | ATLS (Total) | ATLS (TV/computer) |
| 25 | Al-Hazzaa HM, Alahmadi, et al (2015)[25] | 3, 4 | 1 | 1 | 1 | 1 | 1 | 5 | ATLS (Total) | ATLS (TV/computer) |
| 26 | Al-Hazzaa HM, Al-Nakeeb Y, et al (2013)[26] | 3, 4 | 1 | 1 | 1 | 1 | 1 | 5 | ATLS (Total) | ATLS (TV/computer) |
| 27 | Al-Hazzaa HM, Al-Sobayet HI, al (2011)[27] | - | 0 | 1 | 1 | 1 | 1 | 4 | ATLS (Total), Pedometer | ATLS (TV/computer) |
| 28 | Al-Hazzaa HM, Al-Sobayel HI, et al (2013)[28] | 3 | 1 | 1 | 1 | 1 | 1 | 5 | ATLS (Total) | ATLS (TV/computer) |
| 29 | Al-Hazzaa HM, Musaiger AO, et al (2013)[29] | 2 | 1 | 1 | 1 | 1 | 1 | 5 | ATLS (Total) | ATLS (TV/computer) |
| 30 | Al-Hazzaa HM (2007)[30] | 3, 4 | 0 | 1 | 1 | 1 | 1 | 4 | IPAQ-short (Total) |  |
| 31 | Ali HI, Bernsen RM, et al (2008 -Q)[31] | 4 | 1 | 1 | 1 | 0 | 1 | 4 |  |  |
| 32 | Ali HI, Baynouna LM, et at (2010 - Q)[32] | 4 | 1 | 1 | 1 | 0 | 1 | 4 |  |  |
| 33 | Alkahtani MG, Elkilany AM, et al (2015)[33] | 4 | 1 | 0 | 1 | 1 | 1 | 4 | Accelerometer |  |
| 34 | Al-Kilani H, Waly M, et al (2012)[34] | 2 | 1 | 1 | 1 | 0 | 0 | 3 | Local Tool (ND) |  |
| 35 | Allafi A, Al-Haifi AR, et al. (2013)[35] | 3 | 1 | 1 | 1 | 1 | 0 | 4 | ATLS (Total) | ATLS (TV/computer) |
| 36 | Allam AR, Taha IM, et al (2012)[36] | 3 | 1 | 1 | 1 | 1 | 0 | 4 | IPAQ (ND) |  |
| 37 | Al-Mahroos F and Al-Roomi K (2001)[37] | 2 | 0 | 1 | 1 | 0 | 1 | 3 | WHO Heart and Health (Work, walking/cycling) | WHO Heart and Health (TV) |
| 38 | Al-Majwal, AM (2015)[38] | 2, 4 | 0 | 1 | 1 | 1 | 1 | 4 | Local tool (Total) |  |
| 39 | Al-Nakeeb Y, Lyons M, et al (2012)[39] | 2, 3 | 0 | 1 | 1 | 1 | 0 | 3 | ATLS (Walking, Total) | ATLS (TV/computer) |
| 40 | Al-Nozha MM, Al-Hazzaa HM, et al (2007)[40] | 2, 3, 4 | 0 | 1 | 1 | 1 | 0 | 3 | Local tool (Total) |  |
| 41 | Al-Nuaim AA, Al-Nakeeb Y, et al (2012)[41] | 2, 3 | 0 | 0 | 1 | 1 | 0 | 2 | ATLS (Total) | ATLS (TV/computer) |
| 42 | Al-Otaibi HH (2013)[42] | 4 | 1 | 0 | 1 | 0 | 0 | 2 | Local tool (Total, Stages of change, barriers and self-efficacy) |  |
| 43 | Alqahtani N and Scott J (2015)[43] | 2 | 0 | 1 | 0 | 1 | 1 | 3 | Local tool (Total) | Local tool (screen time) |
| 44 | AlQuaiz AM and Tayel SA (2009)[44] | 4 | 1 | 1 | 1 | 1 | 0 | 4 | Adapted CDC (Total, Barriers) |  |
| 45 | Al-Rafaee SA and Al-Hazzaa HM (2001)[45] | 4 | 0 | 1 | 1 | 0 | 0 | 2 | Local tool (ND) |  |
| 46 | Alrashidi M, Shahwan-Akl L, et al (2015)[46] | 2 | 1 | 1 | 1 | 1 | 0 | 4 |  | Local tool (TV/video) |
| 47 | Al-Sobayel H, Al-Hazzaa HM, et al (2015)[47] | 4 | 1 | 1 | 1 | 1 | 1 | 5 | ATLS (Total) |  |
| 48 | Alsubaie AS and Omer EO (2015)[48] | 4 | 1 | 1 | 1 | 0 | 0 | 3 | 30-day recall (ND) |  |
| 49 | Al-Thani, MH, Al-Thani AA, et al (2015)[49] | 2 | 1 | 1 | 1 | 1 | 1 | 5 | GPAQ (Total) |  |
| 50 | Amin TT, Suleman W, et al (2011)[50] | 4 | 1 | 1 | 1 | 1 | 1 | 5 | GPAQ (Total) |  |
| 51 | Amin TT, Al Khoudair AS, et al (2012)[51] | 4 | 1 | 1 | 1 | 1 | 1 | 5 | GPAQ (Total) |  |
| 52 | Ardawi MM, Rouzi AA, et al (2012)[52] | 2 | 1 | 1 | 1 | 1 | 0 | 4 | Local tool (ND), Accelerometer and exercise intervention |  |
| 53 | Awadalla NJ, Aboelyazed AE, et al (2014)[53] | 3, 4 | 1 | 1 | 1 | 1 | 0 | 4 | IPAQ short (Total)Local tool (barriers) |  |
| 54 | Banday AH, Want FA, et al (2015)[54] | 3 | 1 | 1 | 1 | 1 | 0 | 4 | GPAQ (Total) |  |
| 55 | Barss P, Grivna M, et al (2008)[55] | 5 | 1 | 0 | 1 | 0 | 0 | 2 | Local tool (ND) |  |
| 56 | Basulaiman M, El Bcheraoui C, et al (2014)[56] | 2 | 1 | 1 | 1 | 1 | 1 | 5 | IPAQ (Total) | IPAQ (Total) |
| 57 | Berger G and Peerson A (2009 - Q)[57] | 4 | 1 | 0 | 1 | 0 | 1 | 3 |  |  |
| 58 | Carter AO, Elzubeir M, et al (2003)[58] | 3 | 1 | 0 | 1 | 0 | 0 | 2 | Nurses Healthy Study II (ND) |  |
| 59 | Daradkeh G, Al Muhannadi A, et al (2015)[59] | 4 | 1 | 1 | 1 | 0 | 0 | 3 | Local tool (Total) |  |
| 60 | Donnelly TT, Al Suwaidi J, et al (2012 - Q)[60] | 4 | 1 | 1 | 1 | 1 | 1 | 5 |  |  |
| 61 | Duncan MJ, Al-Hazzaa HM, et al (2015)[61] | 4 | 1 | 1 | 1 | 1 | 1 | 5 | ATLS (Total) | ATLS (TV/computer) |
| 62 | El Bcheraoui C, Memish ZA, et al (2014)[62] | 2 | 1 | 1 | 1 | 1 | 1 | 5 | IPAQ (Total) | IPAQ (TV) |
| 63 | El-Aty M, Mabry R, et al (2014)[63] | 2, 3 | 1 | 1 | 1 | 1 | 1 | 5 | GPAQ (Total) | GPAQ (Total) |
| 64 | El-Ghazali S, Ibrahim JM, et al (2010)[64] | 2 | 0 | 1 | 1 | 0 | 0 | 2 | Local tool (Total) | Local Tool (TV/computer) |
| 65 | Farghaly NF, Ghazali BM, et al (2007)[65] | 3 | 0 | 1 | 1 | 0 | 0 | 2 | Local Tool (Total) | Local Tool (TV) |
| 66 | Faris MA, Epuru S, et al (2015)[66] | 4 | 1 | 1 | 1 | 0 | 1 | 4 | Local tool (Total) |  |
| 67 | Gawwad ES (2008)[67] | 4 | 0 | 1 | 1 | 0 | 0 | 2 | Local Tool (Total, Stages of Change, Benefits and Barriers, Self-Efficacy) | Local Tool |
| 68 | Gharib NM and Rasheed P (2008) [68] | 3 | 0 | 1 | 1 | 0 | 1 | 3 | Local Tool (Total) | Local Tool (TV/computer) |
| 69 | Grant N, Gibbs T, et al (2007)[69] | 5 | 1 | 0 | 1 | 0 | 0 | 2 | Local Tool (ND) |  |
| 70 | Hashim R and Al-Ali K (2013)[70] | 4 | 1 | 1 | 1 | 0 | 0 | 3 | Local Tool (ND) |  |
| 71 | Hegazy AM, Salama BM, et al (2015)[71] | 2 | 1 | 1 | 1 | 0 | 1 | 4 | Local tool (ND) |  |
| 72 | Kerkadi A, Abo Elnaga N, et al (2005)[72] | 3 | 0 | 1 | 1 | 0 | 1 | 3 | Local Tool (Total) | Local Tool (TV) |
| 73 | Khalaf A, Ekblom O, et al (2013)[73] | 3 | 0 | 1 | 1 | 1 | 1 | 4 | ATLS (Total) | ATLS (TV/computer) |
| 74 | Kilani H Al-Hazzaa H, et al (2013)[74] | 2 | 1 | 1 | 1 | 1 | 0 | 4 | ATLS (Total) | ATLS (TV/computer) |
| 75 | Kneffel Z, Goebel, R, et al (2015)[75] | 2 | 1 | 1 | 1 | 1 | 0 | 4 | PA intervention |  |
| 76 | Koura MR, Al-Dabal BK, et al (2012)[76] | 3 | 0 | 1 | 1 | 0 | 0 | 2 | GPAQ (Total) |  |
| 77 | Mabry RM, Winkler EA, et al (2012)[77] | 2 | 1 | 1 | 1 | 1 | 1 | 5 | GPAQ (Work, Transport, Leisure) | GPAQ (Total) |
| 78 | Mabry RM, Winkler EA, et al (2012)[78] | 3, 4 | 1 | 1 | 1 | 1 | 1 | 5 | GPAQ (Work, Transport, Leisure, Total) | GPAQ (Total) |
| 79 | Mabry RM, Al-Busaidi ZQ, et al (2013 - Q)[79] | 4 | 1 | 1 | 1 | 1 | 1 | 5 |  |  |
| 80 | Mahfouz AA, Abdelmoneim I, et al (2008)[80] | 3 | 0 | 1 | 1 | 0 | 1 | 3 | Adapted CDC Adolescent Health Survey (Total) | Adapted CDC Adolescent Health Survey (TV) |
| 81 | Mahfouz AA, Shatoor AS, et al (2011)[81] | 3 | 0 | 1 | 1 | 0 | 1 | 3 | Adapted CDC Adolescent Health Survey (Total) | Adapted CDC Adolescent Health Survey (TV) |
| 82 | Memish, ZA, El Bcheraoui C, et al (2014)[82] | 2 | 1 | 1 | 1 | 1 | 1 | 5 | IPAQ (Total) |  |
| 83 | Midhet FM, Sharaf FK. (2011)[83] | 5 | 0 | 1 | 1 | 0 | 1 | 3 | Local Tool (Exercise) |  |
| 84 | Moradi-Lakeh M, El Bcheraoui C, et al (2013)[84] | 2 | 1 | 1 | 1 | 1 | 1 | 5 | IPAQ (Total) | IPAQ (TV/computer) |
| 85 | Muhairi SJ, Mehairi A, et al (2013)[85] | 2 | 1 | 1 | 1 | 0 | 1 | 4 | IPAQ-short (Total) | IPAQ-short (TV/computer) |
| 56 | Musaiger AO, Al-Kandari FI, et al (2014)[86] | 4 | 0 | 0 | 1 | 0 | 0 | 1 | Local tool (Barriers) |  |
| 87 | Musaiger AO and Zagzoog N (2013)[87] | 3 | 0 | 1 | 1 | 0 | 0 | 2 | Local tool (Exercise) | Local (TV/Internet) |
| 88 | Platat C and Jarrar A (2011)[88] | - | 0 | 0 | 1 | 1 | 0 | 2 | QAPACE, pedometer |  |
| 89 | Rouzi AA, Al-Sibani SA, et al (2011)[89] | 2 | 1 | 1 | 1 | 0 | 1 | 4 | 7-day Physical Activity Recall Scale (Total) |  |
| 90 | Sadiya A, Abdi S, et al (2016)[90] | 2 | 1 | 1 | 1 | 1 | 1 | 5 | PedometerLifestyle intervention including exercise |  |
| 91 | Salman RA and Al-Rubeaan KA (2009)[91] | 4 | 1 | 0 | 1 | 0 | 1 | 3 | Local tool (Total) |  |
| 92 | Serour M, Alqhenaei H, et al (2007)[92] | 4 | 1 | 0 | 1 | 1 | 0 | 3 | IPAQ-short (Total) |  |
| 93 | Shah SM, Loney T, et al (2015)[93] | 2 | 1 | 1 | 1 | 0 | 1 | 4 | GPAQ (Total) |  |
| 94 | Sharaf F (2010)[94] | 5 | 1 | 0 | 0 | 0 | 1 | 2 | Local tool (Exercise) |  |
| 95 | Sulaiman N, Hamdan A, et al (2009 - Q)[95] | 4 | 1 | 1 | 1 | 0 | 1 | 4 |  |  |
| 96 | Taha AZ (2008)[96] | 4 | 1 | 1 | 1 | 0 | 1 | 4 | Local tool (Exercise) |  |
| 97 | Tomar RH, Hashim MH, et al (2013)[97] | 2 | 1 | 1 | 1 | 1 | 0 | 4 | Exercise intervention |  |
| 98 | Tuffaha M, El Bcheraoui C, et al (2015)[98] | 2 | 1 | 1 | 1 | 1 | 1 | 5 | IPAQ (Total) |  |
| 99 | Yousef S, Eapen V, et al (2014)[99] | 2, 3 | 1 | 1 | 1 | 0 | 0 | 3 |  | Childhood Behavioral Checklist (TV) |
| 100 | Youssef RM, Al-Shafie K (2013)[100] | 3 | 1 | 1 | 1 | 1 | 1 | 5 | Local Tool (Total, Barriers | Local (TV/computer) |

1. Quality assessment: Except for qualitative studies, all studies were assigned “1” for each of the following criteria if they provided an adequate description: 1. Eligibility, 2. Randomization of participant selection or assignment for case-control studies, iii. Study sample (including number/size, age and gender), 3. Measurement of physical activity includes duration, intensity and frequency (alternatively, for studies in Table 1 and 4 studies should include an adequate description of physical activity in-line with objectives of the study; for studies in Table 2, they should also use the WHO recommendation on physical activity….) and/or measurement of sedentary behavior, 5. Co-variates included in the data analysis. Qualitative studies (Q) were assigned “1” for each of the following criteria if they provided an adequate description: 1. Eligibility, 2. Sample Selection, 3. Study sample (including number/size, age and gender, 4. Recognition of standard definition for physical activity and/or sedentary behavior, 5. Analysis/interpretation
2. Tools: Published tool (GPAQ: Global Physical Activity Questionnaire; IPAQ: International Physical Activity Questionnaire; ATLS: Arab Teens Lifestyle Student Questionnaire, PASESA: Physical Activity Self-Efficacy Scale for Adolescents, SDSCA: Summary of Diabetes Self-Care Activities) or locally developed tool
3. ND: Tools and/or type of PA or SB not adequately described

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