**Supplementary Material**

1. **Summary of included studies**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Author/Year | Title | Aim | Technology | Concept of outcome | Result |
| Alanzi, Istepanian &Philip. (2016) (44) | Design and Usability Evaluation of Social Mobile Diabetes Management System in the Gulf Region. | To present the design and development of a new mobile health system for social behavioral change and management tailored for Saudi patients with diabetes called Saudi Arabia Networking for Aiding Diabetes (SANAD). A usability study for the SANAD system is presented to validate the acceptability of using mobile technologies among patients with diabetes in the KSA and the Gulf region. | Mobile health system (SANAD) | User satisfaction | Mixed method, Likert scale in survey was used, but no response rate was reported. Patients with type 2 diabetes who use SANAD reported higher satisfaction with the overall impression, satisfaction, feeling stimulated, ease of use, perceived power, and flexibility. |
| Abdel Nasser et al. (2021)  (47) | Measuring the Patients’ Satisfaction About Telemedicine Used in Saudi Arabia During COVID-19 Pandemic. | To identify the patient's experience in using the Telemedicine strategies during the COVID-19 pandemic and assess these patients' perception about their experience of using Telemedicine in Saudi Arabia. | Telemedicine | Patient satisfaction | Cross-sectional survey using Likert scale and has no response rate. Participants realized that telemedicine services made healthcare easier during pandemics. They are delighted with the ease of registration/scheduling, understanding of the recommendations or diagnosis, the comfort of the Telemedicine suite, the overall quality of care provided, and the Telemedicine consult experience. |
| Abdulwahab and Zedan. (2021) (1) | Factors Affecting Patient Perceptions and Satisfaction with Telemedicine in Outpatient Clinics. | To understand factors affecting patient perceptions and satisfaction with Telemedicine services | Telemedicine | Patient Perceptions | Cross-sectional survey using Likert scale and has response rate (62.8%).Females, having a stable internet connection and accessing cardiology or Orthopedics clinics all showed significantly higher patient satisfaction rates of Telemedicine services than others. |
| Aboalshamat et al. (2022)  (27) | Accuracy and perceptions of teledentistry in KSA during the COVID-19 pandemic: A single-center randomized controlled trial. | To assess Saudi Arabian patients' accuracy, perceptions, knowledge, attitudes, and challenges regarding Teledentistry used for diagnosis during the COVID-19 pandemic, as well as its accuracy, versus traditional dental visits. | Teledentistry | Patients’ accuracy, perceptions | Participants had highly positive attitudes about Teledentistry used in dental care and there were no significant differences between the SG and the CG in their understanding, knowledge, attitudes, and barriers to Teledentistry |
| Alajwari et al. (2021) (29) | Knowledge and attitude of Saudi Arabian citizens towards Telemedicine during the COVID-19 pandemic. | To investigate the knowledge and attitudes of Saudi Arabian citizens towards Telemedicine during the coronavirus disease 2019 (COVID-19) pandemic. | Telemedicine | Attitudes citizens | Cross-sectional survey using Likert scale and has no response rate. Saudi Arabian citizens had a positive attitude towards Telemedicine during the COVID-19 pandemic, but actual utilization was low due to barriers such as lack of awareness and trust in the technology, as well as preference for face-to-face consultations. |
| Alanezi. (2020) (43) | Factors affecting the adoption of e-health system in the Kingdom of Saudi Arabia. | To investigate the factors that affect the adoption of e-health technologies in the KSA, their acceptance and how people use them. | E-health | User satisfaction | Cross-sectional survey using Likert scale and has no response rate. The main factors influencing the adoption of the e-health system in the KSA were the lack of a relationship between doctors and patients, fears about the possibility of violating data privacy and a lack of government regulations. In addition, certain demographic factors include age, gender, residence, income, education and culture. |
| Alanzi. (2022) (8) | Users’ satisfaction levels about mHealth applications in post-Covid-19 times in Saudi Arabia. | To investigate the users' satisfaction levels about mHealth applications and their intentions to use them in future (in post-Covid-19 times) in Saudi Arabia. | M-Health applications | Users’ satisfaction | Cross-sectional survey using Likert scale and has no response rate. The study revealed that mHealth application users in Saudi Arabia had a moderate level of satisfaction post-COVID-19, with the key determinants of satisfaction being usability, functionality, and privacy. |
| Aldhahir et al. (2022) (48) | Current Knowledge, Satisfaction, and Use of E-Health Mobile Application (Seha) Among the General Population of Saudi Arabia: A Cross-Sectional Study. | To explore current knowledge, satisfaction, and barriers of using Seha app and identify the most common mobile health application used among the general population in Saudi Arabia. | M-health application  (Seha app) | User satisfaction | Cross-sectional survey using Likert scale and has no response rate. The study found high satisfaction with the Seha app, but low usage due to barriers like lack of awareness and preference for face-to-face consultations. Knowledge predicts Seha app usage in Saudi Arabia. |
| Alfaleh et al. (2022) (30) | The role of Telemedicine services in changing users’ intentions for presenting to the emergency departments in Saudi Arabia. | To determine the role of different Telemedicine services in changing the intention of users’ intentions to visit the emergency departments in Saudi Arabia. | Telemedicine | Users’ intentions | Cross-sectional survey and has no response rate. Telemedicine services can change users' intentions to present to emergency departments in Saudi Arabia, especially for non-urgent medical conditions, by offering convenient, accessible, and timely care that positively impacts their perception of traditional healthcare services |
| Algarni et al. (2022) (31) | Tele-Rehabilitation Service from the Patient’s Perspective: A Cross-Sectional Study. | To describe patients’ perceptions of tele-rehabilitation (TR) and investigate the association between TR-related factors and both the patients’ age and type of rehabilitation services. | Tele-rehabilitation | Patients’ perceptions | Cross-sectional survey using Likert scale and has response rate (82.5%).Tele-rehabilitation services can be a useful complement to traditional rehabilitation methods, as they have the potential to improve patient outcomes, adherence to treatment plans, and satisfaction. |
| Algumzi. (2021) (52) | Evolving factors influencing consumers’ attitudes towards the use of eHealth applications: Implications on the future of Neom. | To identify and evaluate the evolving factors affecting consumer attitudes towards the use of eHealth applications and provide implications for the future of Neom. | E-Health | consumers’ attitudes | Cross-sectional survey using Likert scale and has response rate (85.5%).The study showed that necessity, fear, and psychological factors impacted people's attitudes towards eHealth, while performance expectancy and ease of use had a weaker influence. |
| Alhamam et al. (2021) (53) | Telemedicine for Musculoskeletal Care During the COVID-19 Pandemic: Evaluating Readiness of Saudi Citizens. | To determine the readiness of the Saudi population to use Telemedicine for musculoskeletal care during the COVID-19 pandemic. | Telemedicine | Patient attitudes | Cross-sectional survey using Likert scale and has no response rate. The mean overall attitude score about readiness to use Telemedicine for musculoskeletal care during the COVID-19 pandemic was 24.4 of 35 points; 9.9%negative, 54.3% neutral, and 35.7% positive attitude. Positive attitude towards using Telemedicine was significantly more associated with those participants who were younger-aged (≤25 years) and had never been married, respectively. |
| Alharbi,Alzuwaed& Qasem. (2021) (32) | Evaluation of e-health (Seha) application: A cross-sectional study in Saudi Arabia. | To evaluate the effectiveness of the app in improving healthcare delivery by ensuring patient satisfaction with the care given, increasing access to care, and improving efficiency in the healthcare system. | E-health (Seha app) | Patient satisfaction | Cross-sectional survey using Likert scale and has no response rate. Using the Seha app improved the delivery of healthcare services in Saudi Arabia. show that in terms of ease of access, satisfaction, and efficiency. |
| Alharbi. (2021) (49) | The Use of Digital Healthcare Platforms During the COVID-19 Pandemic: The Consumer Perspective. | To measure the role of trust and information quality when using digital healthcare platforms. These constructs are integrated with the Unified Theory of Acceptance and Use of Technology (UTAUT) to provide a better understanding of the consumer perspective regarding the use of digital healthcare platforms. | Digital Healthcare Platform | Consumer Perspective | Cross-sectional survey using Likert scale and has no response rate. Healthcare consumers generally strongly intend to use digital healthcare platforms during and after Covid-19. Information quality does not affect behavioural intention for using digital healthcare platforms in Saudi Arabia during the Covid-19 pandemic. Also, facilitating conditions and trust significantly impact the intention to use digital healthcare platforms in Saudi Arabia. |
| Alharbi et al. (2021) (55) | Patient satisfaction with virtual clinic during Coronavirus disease (COVID-19) pandemic in primary healthcare, Riyadh, Saudi Arabia. | To measure the level of patient satisfaction with virtual clinics during COVID-19 pandemic in Saudi Arabia. | Virtual clinic | Patient satisfaction | Cross-sectional survey using Likert scale and has response rate (97.5%). The study shows a high level of satisfaction with virtual clinics in Saudi Arabia during the COVID-19 pandemic |
| Alhejily. (2022) (28) | Efficacy of Telemedicine Utilization for Cardiac Outpatients’ Care during the Pandemic of COVID-19: A Large Center Experience in the Wave of the Pandemic. | To examine the impact of service and the assistance they may offer to cardiac patients in the outpatient setup. | Telemedicine | Patient satisfaction | Cohort study, likert scale used in survey, which has no response rate, for cardiology outpatient clinic/cardiovascular medicine. The study suggests that Telemedicine effectively provided cardiac care during the COVID-19 pandemic, with high satisfaction levels from patients and clinicians, but with technical and physical examination limitations. |
| Alhodaib and Alanzi. (2021) (51) | Understanding the Impact of Digital Health Strategies During the COVID-19 Outbreak in Saudi Arabia. | To investigates the impact of digital health technologies from the perspectives of policymakers and citizens. | Digital health | Patient satisfaction | Mixed methods where survey with likert scale was used but has no response rate. Survey results have revealed that the digital health technologies are easy to use, and their benefits are largely realized by the participants and average levels of satisfaction (Mean = 2.9, SD = 1.6) |
| Almalky and Alhaidar. (2021) (50) | Patients’ Satisfaction With Telepsychiatry Services at a University Hospital in Riyadh During the COVID-19 Pandemic. | To assess the satisfaction level with telepsychiatry from patients' perspectives and to study whether the satisfaction levels influence the patients' decision to use the service in the future. | Telepsychiatry | Patient satisfaction | Cross-sectional survey using Likert scale and has no response rate. Patients had generally positive satisfaction levels toward telepsychiatry service |
| Almouaalamy, Jafari & Althubaiti. (2022) (34) | Tele-clinics in palliative care during the COVID-19 outbreak: Tertiary care cancer center experience. | To investigate the effect of tele-clinics on palliative care patients during the COVID-19 pandemic. | Tele-clinics | Patients Experience | Retrospective and has no response rate. Tele-clinics were successfully used in palliative care during the COVID-19 outbreak in a tertiary care cancer center, providing remote support to patients with high satisfaction rates. |
| Alwabili et al. (2021) (45) | Measurement of Patient Satisfaction with the Trend of Virtual Clinics During the COVID-19 Pandemic. | To evaluate patient satisfaction with virtual clinics during the COVID-19 pandemic. | Virtual Clinics | Patient satisfaction | Cross-sectional survey using Likert scale and has no response rate. The participants showed considerable satisfaction for virtual clinics in the time of the COVID-19 pandemic |
| Binkheder et al. (2021) (54) | Public Perceptions around mHealth Applications during COVID-19 Pandemic: A Network and Sentiment Analysis of Tweets in Saudi Arabia. | To use Twitter to understand public perceptions around the use of six Saudi mHealth apps used during COVID-19: “Sehha”, “Mawid”, “Sehhaty”, “Tetamman”, “Tawakkalna”, and “Tabaud”. | M-Health | Public perceptions | Cross-sectional survey and has no response rate. The sentiment analysis approach showed that most Twitter conversations around the six mHealth apps "Sehha", "Mawid", "Sehhaty", "Tetamman", "Tawakkalna", and "Tabaud" were neutral. |
| Bugis. (2022) (35) | Patients Self-Reporting of Utilizing Teledental Services During the COVID-19 Pandemic in Saudi Arabia. | To describe the utilization of tele-dentistry services during the pandemic among dental care seekers in Saudi Arabia | Teledental | Patients’ satisfaction | Cross-sectional survey and has response rate (97.1%).Few Saudi Arabian dental patients used teledental services during COVID-19 due to limited awareness and access to technology. However, those who did use it reported high satisfaction. |
| Jabour. (2020) (46) | The Impact of Electronic Health Records on the Duration of Patients’ Visits: Time and Motion Study. | To evaluate the impact of EHR systems on the amount of time spent by patients on different tasks during their visit to primary health care (PHC) centers | EHR | Patient’s perspective | Mixed method using survey that has no response rate. No significant difference was found in the duration of tasks between the PHC centers that use EHR-based systems and the PHC centers that use paper-based systems |
| Khan et al. (2021) (36) | Severe Asthma Patients Experience and Satisfaction with Virtual Clinics during COVID-19 Period. | To determine the satisfaction of patients with severe asthma with Telemedicine, and the impact of COVID-19 lockdown on severe asthma patients on biologics therapy. | Virtual Clinics | Patients Experience | Cross-sectional survey using Likert scale and has response rate (93.1%).Over half of participants (57%) were satisfied with using Telemedicine that allowed the management of severe asthma during the lockdown |
| Magliah et al. (2021) (37) | Perception of virtual clinics among Saudi adults with type 1 diabetes during the COVID-19 pandemic. | To assess patient perception toward the rapid implementation of virtual phone clinics among Saudi adult patients with type 1 diabetes mellitus (T1DM) during the coronavirus disease (COVID-19) pandemic. | Virtual Clinics | Patient perception | Cross-sectional survey using Likert scale and has response rate (70.5%). Overall satisfaction of patients with T1DM who attended the virtual phone diabetes clinic (N = 201) was 59.2% |
| Thirunavukkarasu et al. (2021) (38) | Patients’ Perceptions and Satisfaction with the Outpatient Telemedicine Clinics during COVID-19 Era in Saudi Arabia: A Cross-Sectional Study. | To assessed patients’ perceptions of, and factors associated with, poor and average satisfaction with the outpatient telemedicine clinics in the Kingdom of Saudi Arabia (KSA). | Telemedicine | Patients' Perceptions | Cross-sectional survey using Likert scale and has no response rate. The present study revealed that more than half of the participants had high satisfaction with outpatient Telemedicine clinics. |
| Wafia et al. (2022) (39) | The quality of telepsychiatry in terms of accessibility, appropriateness, effectiveness, and safety among psychiatric patients in King Abdulaziz Medical City: An observational cross-sectional analytical study. | To assess patient satisfaction in telepsychiatry in terms of accessibility and timeliness, appropriateness, effectiveness, and safety, and to see whether patient satisfaction affects their decision to use the service again in the future. | Telepsychiatry | Patient satisfaction | Cross-sectional survey using Likert scale and has response rate (90.54). Telepsychiatry was accessible and appropriate for most patients, but less effective than face-to-face consultations. It positively impacted patients' mental health, but safety concerns were reported regarding privacy and confidentiality. |
| Wali, Alhakami & Alsafari. (2022) (41) | Evaluating the level of patient satisfaction with Telehealth antenatal care during the COVID-19 pandemic at King Abdul-Aziz Medical City, Primary Health Care Center, Specialized Polyclinic. | To evaluate the client satisfaction with a phone-based antenatal care consultation and identify the associated factors during the COVID-19 pandemic at King Abdul-Aziz Medical City, Primary Health Care Center Specialized Polyclinic during 2020 | Telehealth (phone clinics) | Patient satisfaction | Cross-sectional survey using Likert scale and has no response rate. This study showed that most pregnant women had a high level of satisfaction with the phone clinics, as 252 (90.3%) reported a high level of satisfaction. |
| Wali et al. (2020) (40) | Patient satisfaction with the implementation of electronic medical records in the Western Region, Saudi Arabia, 2018 | To explore patient satisfaction with the EMR compared to the PMR of patients attending five Primary Healthcare Centers in the Western Region of Saudi Arabia. | EMR | Patient satisfaction | Cross-sectional survey using Likert scale and has no response rate. Patient satisfaction with the EMR was statistically significant compared to the PMR |
| Yousef et al. (2021) (42) | Predicting Patients’ Intention to Use a Personal Health Record Using an Adapted Unified Theory of Acceptance and Use of Technology Model: Secondary Data Analysis. | To identifying predictors of patient intention to utilize the Ministry of National Guard-Health Affairs PHR (MNGHA Care) app. | E-Health  (MNGHA Care app) | Patient-centered care | Cross-sectional survey using Likert scale and has no response rate. The MNGHA Care PHR showed that 48.9% of positive attitudes were positive predictors of behavioral intentions, confirming that attitude construction has a significant impact on PHR adoption. |

**(2) Quality appraisal for included studies.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cross-sectional studies | | | | | | | | | | |
| Reference | Were the criteria for inclusion in the sample clearly defined? | Were the study subjects and the setting described in detail? | Was the exposure measured in a valid and reliable way? | Were objective, standard criteria used for measurement of the condition? | Were confounding factors identified? | Were strategies to deal with confounding factors stated? | Were the outcomes measured in a valid and reliable way? | Was appropriate statistical analysis used? | Score | Quality |
| Abdel Nasser et al. (47) | N | Y | Y | Y | N | N | Y | Y | 62.5 | Medium |
| Abdulwahab and Zedan (1) | Y | Y | Y | Y | Y | N | Y | N | 75 | High |
| Alajwari et al. (29) | Y | Y | Y | Y | Y | N | Y | N | 75 | High |
| Alanezi. (43) | Y | Y | Y | Y | Y | N | Y | N | 75 | High |
| Alanzi. (8) | Y | Y | Y | Y | Y | N | Y | Y | 87.5 | High |
| Aldhahir et al. (48) | N | Y | Y | Y | N | N | Y | Y | 62.5 | Medium |
| Alfaleh et al. (30) | Y | Y | Y | Y | Y | N | Y | Y | 87.5 | High |
| Algarni et al.(31) | Y | Y | Y | Y | Y | N | Y | Y | 87.5 | High |
| Algumzi. (52) | N | N | Y | N | N | N | Y | Y | 37.5 | Low |
| Alhamam et al. (53) | Y | Y | N | N | N | N | N | Y | 37.5 | Low |
| Alharbi et al. (55) | Y | Y | Y | Y | Y | N | Y | Y | 87.5 | High |
| Alharbi,Alzuwaed and Qasem (32) | Y | Y | Y | Y | Y | N | Y | Y | 87.5 | High |
| Alharbi. (49) | N | Y | Y | Y | N | N | Y | N | 50 | Medium |
| Almalky and Alhaidar (50) | Y | Y | Y | Y | N | N | Y | N | 62.5 | Medium |
| Almouaalamy, Jafari and Althubaiti.(34) | Y | Y | Y | Y | Y | N | Y | Y | 87.5 | High |
| Alwabili et al. (45) | Y | Y | Y | Y | Y | N | Y | Y | 87.5 | High |
| Binkheder et al.(54) | N | N | Y | N | N | N | Y | N | 25 | Low |
| Bugis.(35) | Y | Y | Y | Y | Y | N | Y | Y | 87.5 | High |
| Khan et al. (36) | Y | Y | Y | Y | Y | N | Y | Y | 87.5 | High |
| Magliah et al. (37) | Y | Y | Y | Y | Y | N | Y | Y | 87.5 | High |
| Thirunavukkarasu et al. (38) | Y | Y | Y | Y | Y | Y | Y | Y | 100 | High |
| Wafia et al. (39) | Y | Y | Y | Y | Y | N | Y | Y | 87.5 | High |
| Wali ,Alhakami and Alsafari. (41) | Y | Y | Y | Y | Y | N | Y | Y | 87.5 | High |
| Wali et al. (40) | Y | Y | N | Y | Y | N | Y | Y | 75 | High |
| Yousef et al.(42) | Y | Y | Y | Y | Y | N | Y | Y | 87.5 | High |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cohort Study | | | | | | | | | | | | | |
| Reference | Were the two groups similar and recruited from the same population? | Were the exposures measured similarly to assign people to both exposed and unexposed groups? | Was the exposure measured in a valid and reliable way? | Were confounding factors identified? | Were strategies to deal with confounding factors stated? | Were the groups/participants free of the outcome at the start of the study (or at the moment of exposure)? | Were the outcomes measured in a valid and reliable way? | Was the follow up time reported and sufficient to be long eNugh for outcomes to occur? | Was follow up complete, and if Nt, were the reasons to loss to follow up described and explored? | Were strategies to address incomplete follow up utilized? | Was appropriate statistical analysis used? | Score | Quality |
| Alhejily. (28) | Y | Y | Y | Y | N | Y | Y | Y | N | NA | Y | 90 | High |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mixed-Method Study | | | | | | | | | | | | | |
| Reference | Were the criteria for inclusion in the sample clearly defined? | Were the study subjects and the setting described in detail? | Was the exposure measured in a valid and reliable way? | Were objective,standard criteria used for measurement of the condition? | Were confounding factors identified? | Were strategies to deal with confounding factors stated? | Were the outcomes measured in a valid and reliable way? | Was appropriate statistical analysis used? | Were the criteria for inclusion in the sample clearly defined? | Were the study subjects and the setting described in detail? | Was the exposure measured in a valid and reliable way? | Score | Quality |
| Alanzi, Istepanian and Philip. (44) | Y | Y | Y | Y | Y | N | Y | N | Y | Y | Y | 72.5 | High |
| Is there congruity between the stated philosophical perspective and the research methodology? | Is there congruity between the research methodology and the research question or objectives? | Is there congruity between the research methodology and the methods used to collect data? | Is there congruity between the research methodology and the representation and analysis of data? | Is there congruity between the research methodology and the interpretation of results? | Is there a statement locating the researcher culturally or theoretically? | Is the influence of the researcher on the research, and vice- versa, addressed? | Are participants, and their voices, adequately represented? | Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body? | Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data? | |
| Y | Y | Y | Y | Y | N | N | Y | N | Y | |
| Alhodaib and Alanzi (51) | Were the criteria for inclusion in the sample clearly defined? | Were the study subjects and the setting described in detail? | Was the exposure measured in a valid and reliable way? | Were objective,standard criteria used for measurement of the condition? | Were confounding factors identified? | Were strategies to deal with confounding factors stated? | Were the outcomes measured in a valid and reliable way? | Was appropriate statistical analysis used? | | | | 70 | Medium |
| N | Y | Y | N | Y | N | Y | N | | | |
| Is there congruity between the stated philosophical perspective and the research methodology? | Is there congruity between the research methodology and the research question or objectives? | Is there congruity between the research methodology and the methods used to collect data? | Is there congruity between the research methodology and the representation and analysis of data? | Is there congruity between the research methodology and the interpretation of results? | Is there a statement locating the researcher culturally or theoretically? | Is the influence of the researcher on the research, and vice- versa, addressed? | Are participants, and their voices, adequately represented? | Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body? | Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data? | |
| Y | Y | Y | Y | Y | Y | N | Y | Y | Y | |
| Jabour.(46) | Were the criteria for inclusion in the sample clearly defined? | Were the study subjects and the setting described in detail? | Was the exposure measured in a valid and reliable way? | Were objective, standard criteria used for measurement of the condition? | Were confounding factors identified? | Were strategies to deal with confounding factors stated? | Were the outcomes measured in a valid and reliable way? | Was appropriate statistical analysis used? | | | | 83.8 | High |
| Y | Y | Y | Y | Y | N | Y | Y | | | |
| Is there congruity between the stated philosophical perspective and the research methodology? | Is there congruity between the research methodology and the research question or objectives? | Is there congruity between the research methodology and the methods used to collect data? | Is there congruity between the research methodology and the representation and analysis of data? | Is there congruity between the research methodology and the interpretation of results? | Is there a statement locating the researcher culturally or theoretically? | Is the influence of the researcher on the research, and vice- versa, addressed? | Are participants, and their voices, adequately represented? | Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body? | Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data? | |
| Y | Y | Y | Y | Y | N | N | Y | Y | Y | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Randomized Control Trial Study | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reference | | Was true randomization used for assignment of participants to treatment groups? | Was allocation to treatment groups concealed? | Were treatment groups similar at the baseline? | Were participants blind to treatment assignment? | Were those delivering the treatment blind to treatment assignment? | Were treatment groups treated identically other than the intervention of interest? | Were outcome assessors blind to treatment assignment? | | | | Were outcomes measured in the same way for treatment groups? | | | | Were outcomes measured in a reliable way | | | | | Was follow up complete and if Nt, were differences between groups in terms of their follow up adequately described and analysed? | | | | | Were participants analysed in the groups to which they were randomized? | | | | | | Was appropriate statistical analysis used? | | | | | | Was the trial design appropriate and any deviations from the standard RCT design (individual randomization, parallel groups) accounted for in the conduct and analysis of the trial? | | | | Score | Quality |
| Aboalshamat et al. (27) | Y | | Y | Y | Y | N | Y | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | | 1 | 2 | | 3 | 4 | 1 | 2 | 3 | 4 | | 1 | | | 2 | | 3 | 4 | 1 | 2 | 3 | 4 | 84.6 | High |
| N | N | N | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | | Y | Y | | Y | Y | Y | Y | Y | Y | | | Y | | Y | | Y | Y | Y | Y | Y |