

BMJ Open Protocol for a systematic review and meta-analysis of culturally adapted internet- and mobile-based health promotion interventions

Sumeyye Balci ,¹ Kerstin Spanhel,² Lasse Sander,² Harald Baumeister¹

To cite: Balci S, Spanhel K, Sander L, *et al*. Protocol for a systematic review and meta-analysis of culturally adapted internet- and mobile-based health promotion interventions. *BMJ Open* 2020;**10**:e037698. doi:10.1136/bmjopen-2020-037698

► Prepublication history and additional material for this paper is available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2020-037698>).

Received 12 February 2020
Revised 10 July 2020
Accepted 02 October 2020



© Author(s) (or their employer(s)) 2020. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

¹Department of Clinical Psychology and Psychotherapy, Institute of Psychology and Education, University of Ulm, Ulm, Germany

²Department of Rehabilitation Psychology and Psychotherapy, Institute of Psychology, Albert-Ludwigs-Universität Freiburg, Freiburg im Breisgau, Baden-Württemberg, Germany

Correspondence to

Sumeyye Balci;
sumeyye.balci@uni-ulm.de

ABSTRACT

Introduction High rates of immigration pose challenges for the healthcare systems of many countries to offer high-quality care to diverse populations. Advancing health interventions with incorporating the cultural background of diverse populations can be helpful to overcome this challenge. First studies suggest that culturally diverse populations might benefit from culturally adapted internet-based and mobile-based interventions (IMI) to promote health behaviours. However, the effectiveness of culturally adapted IMIs for health promotion interventions has not been evaluated systematically. Therefore, the aim of this review is to assess the effectiveness of culturally adapted IMIs regarding health promotion. Additionally, the cultural adaptation features of these interventions will be outlined.

Methods and analysis Randomised controlled trials (RCTs) investigating the effectiveness of culturally adapted IMIs to promote health behaviours in the field of healthy eating, smoking cessation, alcohol consumption, physical activity and sexual health behaviour will be identified via a systematic search of the databases MEDLINE, Embase, PsycINFO, CENTRAL. The preliminary search has been conducted on the 26 August 2019 and will be updated in the process. Data will be pooled meta-analytically in case of at least three included studies reporting on the same outcome. Moreover, a narrative synthesis of the included studies will be conducted. The risk of bias will be assessed using the Cochrane Collaboration's tool for the Quality Assessment of RCTs V. 2.0. Publication bias will be assessed using funnel plots.

Ethics and dissemination Ethical approval is not required for this study. The results of this study will be published in a peer-reviewed international journal.

PROSPERO registration number PROSPERO; CRD42020152939

INTRODUCTION

Non-communicable diseases (NCDs) accounted for 71% of the global deaths in 2016.¹ NCDs are also a major barrier in the reduction of the total burden of these diseases and achieving good health for all people.² Minority populations suffer from NCDs more than the general population.³ Furthermore, compared with non-immigrant populations, immigrants show a higher prevalence of

Strengths and limitations of this study

- This is the first comprehensive systematic review of culturally adapted internet-based and mobile-based health promotion interventions.
- This review only includes randomised controlled trial studies to maintain a high methodological standard.
- This review covers the internet-based and mobile-based health promotion interventions in the areas of healthy eating, physical activity, sexual health behaviour, smoking cessation and alcohol consumption.
- Our search yielded only studies written in English, which might be indicative of a selective reporting bias.
- We are expecting a substantial heterogeneity in study designs and outcomes which might challenge firm conclusions.

diabetes, cardiovascular diseases (CVDs), HIV/AIDS⁴ and high blood pressure.^{5,6} The burden and prevalence of NCDs are on the rise in low-income countries as well as in middle-income and high-income countries.⁷ Furthermore, the risk is higher for people with a migration background living in middle-income and high-income countries.^{3,8–10}

One approach to preventing NCDs and improving peoples health constitutes health promotion interventions.¹¹ Health promotion interventions can modify behavioural risk factors by targeting healthy eating, exercising,¹² not smoking, sexual health behaviour, namely condom use and HIV testing, and avoiding the harmful use of alcohol.^{13–15} These behaviours are related to morbidity and mortality globally¹⁶ and promoted by WHO to decrease the chances of developing NCD and to keep a healthy life.^{17,18} Additionally, socioeconomic factors and migration itself play an important role in accessing and benefiting from healthcare interventions.^{19,20} The access of immigrants and minority populations to health services



can be hindered owing to several factors such as the health beliefs of the respective groups, language and cultural barriers, low health literacy, perceived stigma and limited financial means.²¹ To tackle the problems related to the accessibility of health services for immigrants and minority populations and to decrease the risk of developing NCDs, it might be essential to offer culturally sensitive health behaviour interventions to assure a more relevant and appealing practice to culturally diverse populations.^{3 22 23}

An approach to making interventions more suitable for culturally diverse groups is to adapt existing interventions for the target group, which is called cultural adaptation. Cultural adaptation refers to systematic modifications of evidence-based practice by taking into account language, culture, and the context to make the intervention more suitable with the target group's cultural patterns, meanings and values.²⁴ To guarantee the scientific excellence of the research and guide future researchers with the adaptation of interventions regarding public health, various frameworks for adaptations have been presented. A review identified 13 frameworks and eight common steps to adapt an intervention, among others: assessing the population of interest, understanding the original intervention and deciding on the aspects to adapt, the last two being the most commonly illustrated steps.²⁵ More frameworks specifically addressing cultural adaptations are Ecological Validity²⁶; Cultural Sensitivity Framework²⁷; Tool Kit of Adaptation Approaches²⁸; Intervention mapping framework²⁹; Cultural Accommodation Model.³⁰ However, these frameworks were developed for face-to-face interventions.

Whereas face-to-face interventions are widely used, advances in internet technology and its increasing availability all around the world lead researchers to use this source to offer health behavioural change interventions digitally.³¹ Internet-based and mobile-based interventions (IMIs) are used to enhance health behaviour promotion and result in promising positive effects for general and minority populations.^{32–35} According to previous reviews, IMIs concerning health promotion are potentially effective in altering lifestyle factors and sporting medical treatments,^{35 36} health behavioural change,^{32 34} losing weight,^{33 37} HIV prevention,³⁸ CVD prevention,³⁹ smoking cessation⁴⁰ and physical activity.⁴¹ Furthermore, IMIs have been culturally adapted in order to reach culturally diverse populations. For example, culturally adapted IMIs yielded beneficial results for individuals with NCDs, namely obesity, CVDs and diabetes.^{42–59} While the number of studies regarding culturally adapted IMIs is increasing, it is important to explore these studies' effectiveness and herewith contribute to the development of evidence-based culturally adapted IMIs to promote health behaviours in these underserved populations. Unlike previous reviews, we aim to investigate in a systematic review and meta-analysis whether IMIs can be provided effectively to diverse populations if they are culturally adapted.

Objectives

The aim of this systematic review and meta-analysis is to investigate the effectiveness of culturally adapted internet-based and mobile-based health promotion interventions. The following questions will be systematically pursued:

1. Are culturally adapted internet-based and mobile-based health promotion interventions effective in the targeted populations?
2. How are culturally adapted IMIs realised and what kind of adaptation features and approaches have been used?

METHODS AND ANALYSIS

The planned systematic review and meta-analysis has been preregistered at International Prospective Register of Systematic Reviews and follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (PRISMA) 2015 statement.⁶⁰

Eligibility criteria

Population

The target population should differ in terms of cultural background from the target population that the intervention has been originally developed for.

Interventions

We will include interventions that were culturally adapted, that is, interventions that were modified in at least one aspect in order to make them more culturally appropriate for the target population. Interventions that have only been translated will not be included. The interventions addressing the following health promotion topics will be included: healthy eating, physical activity, alcohol consumption, sexual health behaviour and smoking cessation. These health promotion areas are endorsed by WHO to improve overall health and fight against the development of NCDs and can be effectively delivered online.^{17 36} Health promotion refers to a process which constitutes efforts to enhance overall health and manage its determinants and risk factors.⁶¹ Furthermore, the intervention has to be delivered predominantly or completely in an internet-based and/or mobile-based setting. By that, we understand the majority (>50%) of the content of the intervention has been delivered via the internet and mobile technologies.

Comparators

Randomised controlled trials (RCTs) comparing a group that receives a culturally adapted IMI with a control group that receives no treatment, treatment as usual, or placebo, as well as with a waitlist or active control group will be included.

Outcomes

Health behaviour-specific outcomes of interest are:

- ▶ For healthy eating interventions: body mass index.
- ▶ For physical activity/exercise interventions: time spent exercising (assessed via self-report or mobile/wearable technological devices, eg, pedometers).
- ▶ For sexual health behaviour: change in condom use.

- ▶ For smoking cessation: level of smoking.
- ▶ For alcohol consumption: level of alcohol consumption.

Cross health behaviour outcomes of interest are:

- ▶ Health-related quality of life.
- ▶ Self-efficacy.

Outcomes may be reported subjectively (eg, self-reported in questionnaires) or objectively (eg, pedometers, HbA1c (hemoglobin A1c) levels). If more than one measure for an outcome is reported, we will prioritise objective measures over subjective measures.

Study design

RCTs will be included in order to answer the first research question.

Information sources and search strategy

Systematic searches were conducted in the following electronic databases to identify eligible studies for the review: Cochrane Central Register of Controlled Trials (CENTRAL), EbscoHost/MEDLINE, Ovid/Embase and EbscoHost/PsychINFO. The search strategy included a combination of keywords and database-specific terms, including the medical subject headings terms that cover culturally adapted IMIs in the field of health promotion interventions (see online supplemental file 1). The search terms also cover the topic of a parallel conducted a systematic review on culturally adapted IMIs for mental health conditions.⁶² We did not add any date limitation to the search and the preliminary search has been conducted on the 26 August 2019. The search will be updated in the process.

Study records

The results of the search will be uploaded to Covidence,⁶³ reference management software. After removal of duplicates, titles and abstracts of the articles will be screened by two independent reviewers (SB and KS) to identify studies with regard to the inclusion criteria. Identified articles will then be reviewed in full text by the two reviewers (SB and KS) according to the inclusion criteria. Any disagreement between the two reviewers regarding eligibility will be resolved by discussion with a third reviewer (HB). Reasons for exclusion will be recorded.

The study selection process is illustrated in a PRISMA flow diagram (see figure 1).⁶⁴

Data items

Data will be extracted in duplicate by two independent reviewers (SB and KS) in Covidence software.⁶³ Extracted data will include publication details, information about the study participants (demographics and cultural background, baseline characteristics), study design, study setting, the country where the intervention was conducted, characteristics of the original and the adapted interventions, and health behaviour-specific and generic outcome measures, the form of cultural adaptation of the intervention, content of the intervention and

utilisation of theoretical or evidence-based components of the interventions.

Quality assessment and risk of bias

The risk of bias will be assessed by two independent reviewers using Cochrane Collaboration's Risk of Bias tool V 2.0 through in following domains: bias arising from the randomisation process, bias from deviations from the intended interventions, bias from missing outcome data, bias due to measurement of the outcome, bias from the selection of the reported results.⁶⁵

Data synthesis

Meta-analysis

Data will be meta-analytically pooled in case of at least three included studies reporting data on the same outcome. Else findings of included studies will be described descriptively. In order to quantify the heterogeneity, I^2 test will be performed for the subgroups, which will be formed based on the intervention outcome of each domain. If heterogeneity is significant, the meta-analysis will be performed using random-effect models.⁶⁶ Review Manager V.5 will be used to conduct the analysis.⁶⁷ In the case of multiple outcome measures reported for one primary outcome, then we will use the objective measure over subjective measures. Postintervention scores of intervention and control groups will be used to calculate the between-group effect sizes of each study. For each outcome domain, the meta-analytical effect will be calculated with standardised mean differences and 95% CIs for continuous outcomes, whereas for dichotomous outcomes, ORs will be used. The effect sizes will be descriptively categorised according to Cohen's rule of thumb with $d=0.20$ considered a small effect, $d=0.50$ a medium effect and $d=0.80$ a large effect.⁶⁸ Publication bias will be assessed using funnel plots.

Heterogeneity

With an assumption of the random-effects model, heterogeneity will be measured with I^2 statistics. In order to interpret the results of this, guidelines from the Cochrane Handbook will be used. According to the guidelines, 0%–40% refers to no heterogeneity, 30%–60% moderate, 50%–90% substantial and 75%–100% considerable heterogeneity.⁶⁹ In the presence of substantial heterogeneity, we will conduct subgroup analyses to explore possible sources of heterogeneity. If we have sufficient data, subgroup analyses will be conducted across studies based on: population (healthy vs diagnosed), duration of the intervention, technology (internet-based vs app/mobile-based) and presence of guidance. Sensitivity analyses will be conducted to explore the impact of the risk of bias on study findings. Studies rated as high risk of bias will be excluded and the meta-analysis will be conducted again.

Qualitative synthesis

A narrative synthesis of all included studies will be conducted, and the relevant characteristics of the studies defined in the Data Items section will be qualitatively

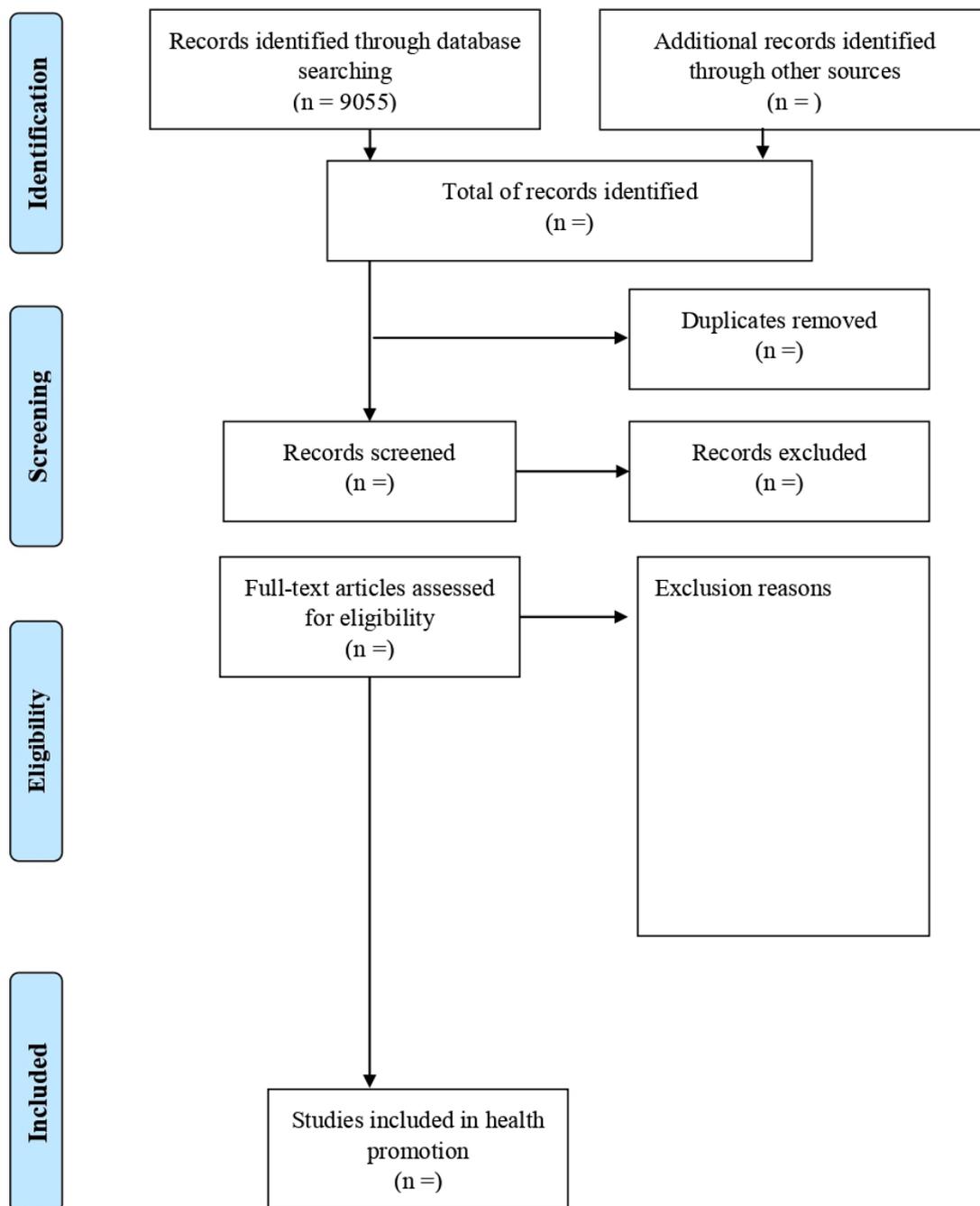


Figure 1 PRISMA flow diagram. Mohar D et al.⁶⁴

described. This synthesis will address the cultural adaptation process, theoretical background and adapted components of the intervention. Moreover, findings of the studies, namely acceptance and adherence rates, will be outlined. A table summarising the objectives, methods, and outcomes of each included study will be provided.

Patient and public involvement

No patient involved.

ETHICS AND DISSEMINATION

Since the collected data in this review are based on secondary analyses of published data, no ethical approval

is needed. After completing the review and meta-analysis, the results will be published in a peer-reviewed international journal. Moreover, the results will be presented in conferences and workshops. Updates regarding the current status of this review will be available in PROSPERO.

DISCUSSION

The present planned review is the first to explore the effectiveness of culturally adapted IMIs concerning health promotion interventions and will address a significant lack of research concerning the cultural adaptation of

IMIs. It is expected to inform future research by providing a summary of the literature in this area and describing the features of existing culturally adapted IMIs. Moreover, this review might communicate practices whether culturally adapting IMIs is a necessary effort to make and may guide future investment. Nonetheless, due to the expected heterogeneity of effects across studies, the findings from this review should be treated with caution.

Twitter Lasse Sander @BosseSander

Contributors SB, KS, HB and LS conceived the study design. SB, KS and LS developed the search strategy. SB wrote the draft of the manuscript. All authors read, provided feedback and approved the final version. The guarantor of the review is SB.

Funding This research has been funded by the SB's Ph.D. scholarship, which is granted by the Ministry of Education in Turkey.

Disclaimer The funder had no involvement in this study and manuscript.

Competing interests HB received consultancy fees, reimbursement of congress attendance and travel costs as well as payments for lectures from Psychotherapy and Psychiatry Associations as well as Psychotherapy Training Institutes in the context of E-Mental-Health topics. He has been the beneficiary of study support (third-party funding) from several public funding organisations. LS reported receiving personal fees from Psychotherapy Training Institutes and clinics in the context of e-mental-health and supervision outside the submitted work.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

Supplemental material This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

ORCID iD

Sumeyye Balci <http://orcid.org/0000-0001-8219-6163>

REFERENCES

- WHO. THE GLOBAL HEALTH OBSERVATORY: Total NCD Mortality, 2016. Available: <https://www.who.int/data/gho/data/themes/topics/indicator-groups/indicator-group-details/GHO/total-ncd-mortality> [Accessed 29.01.2020].
- Di Cesare M, Khang Y-H, Asaria P, et al. Inequalities in non-communicable diseases and effective responses. *The Lancet* 2013;381:585–97.
- Yun K, Hebrank K, Graber LK, et al. High prevalence of chronic non-communicable conditions among adult refugees: implications for practice and policy. *J Community Health* 2012;37:1110–8.
- Montesi L, Caletti MT, Marchesini G. Diabetes in migrants and ethnic minorities in a changing world. *World J Diabetes* 2016;7:34.
- Modesti PA, Reboldi G, Cappuccio FP, et al. Panethnic differences in blood pressure in Europe: a systematic review and meta-analysis. *PLoS One* 2016;11:e0147601.
- Rambihar VS, Rambihar SP, Rambihar VS. Race, ethnicity, and heart disease: a challenge for cardiology for the 21st century. *Am Heart J* 2010;159:1–14.
- Di Cesare M, Khang Y-H, Asaria P, et al. Inequalities in non-communicable diseases and effective responses. *Lancet* 2013;381:585–97.
- Alwan A. *Global status report on noncommunicable diseases*. World Health Organization, 2011. ISBN:ISBN:978 92 4 156422 9.
- Benziger CP, Roth GA, Moran AE. The global burden of disease study and the preventable burden of ncd. *Glob Heart* 2016;11:393–7.
- Castelli F, Muesan ML, Migration EHI. *Communicable and noncommunicable diseases: are we witnessing a paradigm shift?* Springer International Publishing AG, 2018: 17–26.
- da Silva LS, Cotta RMM, Rosa CdeOB. [Health promotion and primary prevention strategies to fight chronic disease: a systematic review]. *Rev Panam Salud Publica* 2013;34:343–50.
- Horton R. Non-Communicable diseases: 2015 to 2025. *The Lancet* 2013;381:509–10.
- WHO. *Preventing chronic diseases: a vital investment: who global report*. World Health Organization, 2005. ISBN: 92 4 156300 1. <https://apps.who.int/iris/handle/10665/43314>
- United Nations G. *Resolution A/RES/65/238: scope, modalities, format and organization of the high-level meeting of the general assembly on the prevention and control of non-communicable diseases*, 2011.
- World Health Assembly, 66. Follow-Up to the political Declaration of the high-level meeting of the general assembly on the prevention and control of non-communicable diseases; 2013. <https://apps.who.int/iris/handle/10665/150161>
- GBD 2017 Risk Factor Collaborators. Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and territories, 1990–2017: a systematic analysis for the global burden of disease study 2017. *Lancet* 2018;392:1923–94.
- World Health Organization. *Global status report on noncommunicable diseases*, 2014. ISBN: ISBN: 978 92 4 156485 4. <https://www.who.int/nmh/publications/ncd-status-report-2014/en/>
- Pelikan JM, Dietscher C, Schmied H. Health promotion for NCDs in and by hospitals: a health promoting Hospital perspective. In: *Global Handbook on noncommunicable diseases and health promotion*. New York, NY: Springer, 2013.
- Leclerc A, Kaminski M, Lang T. [Closing the gap in a generation: the WHO report on social determinants of health]. *Rev Epidemiol Sante Publique* 2009;57:227–30.
- Friel S, Marmot MG. Action on the social determinants of health and health inequities goes global. *Annu Rev Public Health* 2011;32:225–36.
- WHO regional office for Europe. How health systems can address health inequities linked to migration and ethnicity WHO Reg Off Eur; 2010. https://www.euro.who.int/_data/assets/pdf_file/0005/127526/e94497.pdf [Accessed 07.02.2020]. 978 92 890 0204 2.
- Barrera M, Castro FG, Strycker LA, et al. Cultural adaptations of behavioral health interventions: a progress report. *J Consult Clin Psychol* 2013;81:196–205.
- Davies AA, Blake C, Dhavan P. Social determinants and risk factors for non-communicable diseases (NCDS) in South Asian migrant populations in Europe. *Asia Eur J* 2011;8:461–73.
- Bernal G, Jiménez-Chafey MI, Domenech Rodríguez MM. Cultural adaptation of treatments: a resource for considering culture in evidence-based practice. *Prof Psychol* 2009;40:361–8.
- Escoffery C, Lebow-Skelley E, Udelson H, et al. A scoping study of frameworks for adapting public health evidence-based interventions. *Transl Behav Med* 2019;9:1–10.
- Bernal G, Sáez-Santiago E. Culturally centered psychosocial interventions. *J Community Psychol* 2006;34:121–32.
- Resnicow K, Soler R, Braithwaite RL, et al. Cultural sensitivity in substance use prevention. *J Community Psychol* 2000;28:271–90.
- Davidson EM, Liu JJ, Bhopal R, et al. Behavior change interventions to improve the health of racial and ethnic minority populations: a tool kit of adaptation approaches. *Milbank Q* 2013;91:811–51.
- Bartholomew LK, Parcel GS, Kok G. Intervention mapping: a process for developing theory- and evidence-based health education programs. *Health Educ Behav* 1998;25:545–63.
- Leong FTL, Lee SH. A cultural accommodation model for cross-cultural psychotherapy: illustrated with the case of Asian Americans. special issue: culture, race, and ethnicity in psychotherapy. *Psychotherapy Theory Research & Practice* 2006;43:410–23.
- Vandelanotte C, Müller AM, Short CE, et al. Past, present, and future of eHealth and mHealth research to improve physical activity and dietary behaviors. *J Nutr Educ Behav* 2016;48:219–28.
- Lustria MLA, Noar SM, Cortese J, et al. A meta-analysis of Web-Delivered tailored health behavior change interventions. *J Health Commun* 2013;18:1039–69.
- Bennett GG, Steinberg DM, Stoute C, et al. Electronic health (eHealth) interventions for weight management among racial/ethnic minority adults: a systematic review. *Obes Rev* 2014;15 Suppl 4:146–58.

- 34 Webb TL, Joseph J, Yardley L, *et al.* Using the Internet to promote health behavior change: a systematic review and meta-analysis of the impact of theoretical basis, use of behavior change techniques, and mode of delivery on efficacy. *J Med Internet Res* 2010;12:e4–18.
- 35 Bendig E, Bauereiß N, Ebert DD, *et al.* Internet- based interventions in chronic somatic disease. *Dtsch Arztebl Int* 2018;115:659–65.
- 36 Kohl LFM, Crutzen R, de Vries NK. Online prevention aimed at lifestyle behaviors: a systematic review of reviews. *J Med Internet Res* 2013;15:e146–13.
- 37 Ryan K, Dockray S, Linehan C. A systematic review of tailored eHealth interventions for weight loss. *Digit Health* 2019;5
- 38 Noar SM, Black HG, Pierce LB. Efficacy of computer technology-based HIV prevention interventions: a meta-analysis. *AIDS* 2009;23:107–15.
- 39 Hamilton SJ, Mills B, Birch EM, *et al.* Smartphones in the secondary prevention of cardiovascular disease: a systematic review. *BMC Cardiovasc Disord* 2018;18:25.
- 40 Do HP, Tran BX, Le Pham Q, *et al.* Which eHealth interventions are most effective for smoking cessation? A systematic review. *Patient Prefer Adherence* 2018;12:2065–84.
- 41 Müller AM, Alley S, Schoeppe S, *et al.* The effectiveness of e- & mHealth interventions to promote physical activity and healthy diets in developing countries: A systematic review. *Int J Behav Nutr Phys Act* 2016;13:109.
- 42 Saleh S, Farah A, Dimassi H, *et al.* Using mobile health to enhance outcomes of noncommunicable diseases care in rural settings and refugee camps: randomized controlled trial. *JMIR Mhealth Uhealth* 2018;6:e137.
- 43 Ni Mhurchu C, Whittaker R, McRobbie H, *et al.* Feasibility, acceptability and potential effectiveness of a mobile health (mHealth) weight management programme for new Zealand adults. *BMC Obes* 2014;1:1–10.
- 44 Zhou W, Chen M, Yuan J, *et al.* Welltang - A smart phone-based diabetes management application - Improves blood glucose control in Chinese people with diabetes. *Diabetes Res Clin Pract* 2016;116:105–10.
- 45 Ramirez M, Wu S. Phone messaging to prompt physical activity and social support among low-income Latino patients with type 2 diabetes: a randomized pilot study. *JMIR Diabetes* 2017;2:e8.
- 46 Mimiaga MJ, Thomas B, Biello K, *et al.* A pilot randomized controlled trial of an integrated In-person and mobile phone delivered counseling and text messaging intervention to reduce HIV transmission risk among male sex workers in Chennai, India. *AIDS Behav* 2017;21:3172–81.
- 47 Ybarra ML, Bull SS, Prescott TL, *et al.* Acceptability and feasibility of CyberSenga: an Internet-based HIV-prevention program for adolescents in Mbarara, Uganda. *AIDS Care* 2014;26:441–7.
- 48 Sznitman S, Vanable PA, Carey MP, *et al.* Using culturally sensitive media messages to reduce HIV-associated sexual behavior in high-risk African American adolescents: results from a randomized trial. *J Adolesc Health* 2011;49:244–51.
- 49 Billings DW, Leaf SL, Spencer J, *et al.* A randomized trial to evaluate the efficacy of a web-based HIV behavioral intervention for high-risk African American women. *AIDS Behav* 2015;19:1263–74.
- 50 Albright CL, Steffen AD, Wilkens LR, *et al.* Effectiveness of a 12-month randomized clinical trial to increase physical activity in multiethnic postpartum women: results from Hawaii's Na Mikimiki project. *Prev Med* 2014;69:214–23.
- 51 Huang S-J, Hung W-C, Shyu M-L, *et al.* Web-Based intervention to promote physical activity in Taiwanese children. *J Pediatr Nurs* 2019;45:e35–43.
- 52 Migneault JP, Dedier JJ, Wright JA, *et al.* A culturally adapted telecommunication system to improve physical activity, diet quality, and medication adherence among hypertensive African-Americans: a randomized controlled trial. *Ann Behav Med* 2012;43:62–73.
- 53 Lin M, Mahmooth Z, Dedhia N, *et al.* Tailored, interactive text messages for enhancing weight loss among African American adults: the TRIMM randomized controlled trial. *Am J Med* 2015;128:896–904.
- 54 Brewer LC, Hayes SN, Jenkins SM, *et al.* Improving cardiovascular health among African-Americans through mobile health: the faith! APP pilot study. *J Gen Intern Med* 2019;34:1376–8.
- 55 Staffileno BA, Tangney CC, Fogg L. Favorable outcomes using an eHealth approach to promote physical activity and nutrition among young African American women. *J Cardiovasc Nurs* 2018;33:62–71.
- 56 Bender MS, Cooper BA, Park LG, *et al.* A feasible and efficacious Mobile-Phone based lifestyle intervention for Filipino Americans with type 2 diabetes: randomized controlled trial. *JMIR Diabetes* 2017;2:e30.
- 57 Lee HY, Koopmeiners JS, McHugh J, *et al.* mHealth pilot study: text messaging intervention to promote HPV vaccination. *Am J Health Behav* 2016;40:67–76.
- 58 Chandler J, Sox L, Kellam K, *et al.* Impact of a culturally tailored mHealth medication regimen self-management program upon blood pressure among hypertensive Hispanic adults. *Int J Environ Res Public Health* 2019;16:1226.
- 59 Liao Y, Wu Q, Kelly BC, *et al.* Effectiveness of a text-messaging-based smoking cessation intervention (“Happy Quit”) for smoking cessation in China: A randomized controlled trial. *PLoS Med* 2018;15:e1002713.
- 60 Shamseer L, Moher D, Clarke M, *et al.* Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. *BMJ* 2015;349:g7647:1–25.
- 61 World Health Organization. Ottawa charter for health promotion first International Conference on health promotion. *Health Promotion International* 1986;1:405.
- 62 Spanhel K, Balci S, Baumeister H, *et al.* Cultural adaptation of Internet- and mobile-based interventions for mental disorders: a systematic review protocol. *Syst Rev* 2020;9:207.
- 63 Babineau J. Product review: Covidence (systematic review software). *J Can Health Libr Assoc* 2014;35:68.
- 64 Moher D, Liberati A, Tetzlaff J, *et al.* Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Med* 2009;6:e1000097.
- 65 Sterne JAC, Savović J, Page MJ, *et al.* Rob 2: a revised tool for assessing risk of bias in randomised trials. *BMJ* 2019;366:l4898.
- 66 Higgins JPT, Thompson SG. Quantifying heterogeneity in a meta-analysis. *Stat Med* 2002;21:1539–58.
- 67 The Nordic Cochrane centre Review Manager (RevMan) [Computer program] Version 5.3. Copenhagen: The Nordic Cochrane Centre, The Cochrane Collaboration. 2014.
- 68 Cohen J. *Statistical power analysis for the behavioural science.* 2nd ed, 1988. ISBN: 978-0805802832.
- 69 Higgins J, Green S. *Cochrane Handbook for systematic reviews of interventions.* Version 5.1.0. The Cochrane Collaboration, 2011. www.handbook.cochrane.org

Embase

Search Strategy:

-
- 1 "internet".sh.
 - 2 "mobile phone".sh.
 - 3 "Computer".sh. (70170)
 - 4 computer.ti. (53777)
 - 5 computer.ab. (225771)
 - 6 website.ti. (1711)
 - 7 website.ab. (24568)
 - 8 websites.ti. (1136)
 - 9 websites.ab. (13827)
 - 10 web.ti. (21209)
 - 11 web.ab. (119829)
 - 12 online.ti. (22729)
 - 13 online.ab. (141760)
 - 14 internet.ti. (18619)
 - 15 internet.ab. (58630)
 - 16 webbased.ti. (52)
 - 17 webbased.ab. (906)
 - 18 internetbased.ti. (21)
 - 19 internetbased.ab. (191)
 - 20 media-based.ti. (181)
 - 21 media-based.ab. (890)
 - 22 (computerized or computerised).ti. (20940)
 - 23 (computerised or computerized).ab. (89964)
 - 24 cyber.ti. (570)
 - 25 cyber.ab. (1317)
 - 26 mobile.ti. (21460)
 - 27 mobile.ab. (116383)
 - 28 (App or Apps).ti. (7594)
 - 29 (Apps or App).ab. (32707)
 - 30 (smartphone or smartphones).ti. (4860)
 - 31 (smartphone or smartphones).ab. (10968)
 - 32 (phone or phones).ti. (6493)
 - 33 (phones or phone).ab. (38021)
 - 34 1 or 2 or 3 or 4 or 6 or 8 or 10 or 12 or 14 or 16 or 18 or 20 or 22 or 24 or 26 or 28 or 30 or 32 (299651)
 - 35 "Psychotherapy".sh. (84341)
 - 36 "Psychoanalysis".sh. (32581)
 - 37 "Behavior Therapy".sh. (41924)
 - 38 "cognitive behavioral therapy".mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] (19088)
 - 39 "Group Psychotherapy".mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] (3068)
 - 40 "Psychodynamic Psychotherapy".sh. (1204)
 - 41 "crisis intervention".sh. (5927)
 - 42 "early childhood intervention".sh. (2688)
 - 43 "intervention study".sh. (42430)
 - 44 intervention.mp. (869066)
 - 45 "Therapeutic Processes".mp. (615)
 - 46 "Cognitive Restructuring".mp. (1374)
 - 47 "Cognitive Techniques".mp. (260)
 - 48 "Psychotherapeutic Techniques".mp. (317)

- 49 "Self-Help Techniques".mp. (56)
50 "Self-Instructional Training".mp. (54)
51 "Self-Management".mp. (25559)
52 "Brief Psychotherapy".mp. (532)
53 "Psychotherapeutic Counseling".mp. (36)
54 Intervention.ti. or Intervention.ab. or Interventions.ti. or Interventions.ab. (1214165)
55 treatment.ti. or treatment.ab. or treatments.ti. or treatments.ab. (5814491)
56 therapy.ti. or therapy.ab. or therapies.ti. or therapies.ab. (2697658)
57 therapeutics.ti. or therapeutics.ab. or therapeutic.ti. or therapeutic.ab. (1387106)
58 psychotherapy.ti. or psychotherapy.ab. or psychotherapies.ti. or psychotherapies.ab. (44684)
59 psychoeducation.ti. or psychoeducation.ab. (4097)
60 psychotherapeutic.ti. or psychotherapeutic.ab. or psychotherapeutics.ti. or psychotherapeutics.ab. (12853)
61 cbt.ti. or cbt.ab. (15008)
62 narrative therapy.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] (517)
63 psychodynamic psychotherapy.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] (2187)
64 behavior modification.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] (9616)
65 cognitive therapy.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] (44582)
66 crisis intervention.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] (6608)
67 early childhood intervention.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] (2788)
68 intervention study.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] (49987)
69 program.ti. or program.ab. or programs.ti. or programs.ab. or programme.ti. or programme.ab. or programmes.ti. or programmes.ab. (974400)
70 training.ti. or training.ab. or trainings.ti. or trainings.ab. (503715)
71 lesson.ti. or lesson.ab. or lessons.ti. or lessons.ab. (73672)
72 counselling.ti. or counselling.ab. or counseling.ti. or counseling.ab. (125411)
73 coaching.ti. or coaching.ab. (7795)
74 self-help.ti. or self-help.ab. or self-care.ti. or self-care.ab. or selfcare.ti. or selfcare.ab. or self-change.ti. or self-change.ab. (31586)
75 self-instruction.ti. or self-instruction.ab. (397)
76 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 (9435368)
77 "Computer Assisted Therapy".sh. (4562)
78 "Telemedicine".sh. (21711)
79 "Online Therapy".mp. (160)
80 telemedicine.ti. or telemedicine.ab. or telehealth.ti. or telehealth.ab. or telehealth.ti. or telehealth.ab. or telecare.ti. or telecare.ab. (17289)
81 eHealth.ti. or eHealth.ab. (2512)
82 e-Health.ti. or e-health.ab. (2699)
83 "electronic health".ti. or "electronic health".ab. (20151)

- 84 "e-mental health".ti. or "e-mental health".ab. (195)
85 e-therapy.ti. or e-therapy.ab. or e-therapeutic.ti. or e-therapeutic.ab. (474)
86 mHealth.ti. or mHealth.ab. or m-Health.ti. or m-health.ab. or "mobile health".ti. or "mobile health".ab. (4469)
87 cCBT.ti. or cCBT.ab. or iCBT.ti. or iCBT.ab. (1063)
88 "digital health".ti. or "digital health".ab. (1168)
89 77 or 78 or 79 or 80 or 81 or 82 or 83 or 84 or 85 or 86 or 87 or 88 (61048)
90 34 and 76 (95238)
91 89 or 90 (148985)
92 Cross Cultural Treatment.mp. (7)
93 Cross Cultural Counseling.mp. (18)
94 Multicultural Counseling.mp. (69)
95 Cross Cultural Psychology.mp. (110)
96 International Psychology.mp. (22)
97 cultural psychiatry.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] (526)
98 Cross Cultural Differences.mp. (913)
99 (Racial and Ethnic Differences).mp. (3741)
100 Cultural Sensitivity.sh. (1048)
101 Multiculturalism.mp. (448)
102 Sociocultural Factors.mp. (1715)
103 transcultural care.sh. (4180)
104 Cultural factor.sh. (59696)
105 Cultural Competence.sh. (6040)
106 Cultural Diversity.sh. (1428)
107 cultural psychology.sh. (154)
108 (Cultural adaptation or Cultural adaptations or Culturally adapted).af. (5446)
109 (cultural attunement or cultural attunements or culturally attuned).af. (45)
110 (cultural adjustment or cultural adjustments or culturally adjusted).af. (141)
111 (culturally tailored or cultural tailoring).af. (1303)
112 (culturally targeted or cultural targeting).af. (180)
113 (Cultural modification or Cultural modifications or Culturally modified).af. (143)
114 (contextual adaptation or contextual adaptation).af. (39)
115 (local adaptation or local adaptations).af. (3361)
116 (Cultural consideration or Cultural considerations).af. (531)
117 (culturally suitable or cultural suitability).af. (44)
118 (culturally adequate or cultural adequacy).af. (40)
119 (culturally appropriate or cultural appropriateness).af. (5052)
120 (Cultural influence or Cultural influences or Culturally influenced).af. (1905)
121 CALD.ti. or CALD.ab. (501)
122 "culturally diverse".ti. or "culturally diverse".ab. or "cultural diversity".ti. or "cultural diversity".ab. (3446)
123 "linguistically diverse".ti. or "linguistically diverse".ab. or "linguistic diversity".ti. or "linguistic diversity".ab. (962)
124 ("Cultural difference" or "Cultural differences").ti. or "Cultural difference".ab. or "Cultural differences".ab. (6144)
125 "Culturally specific".ti. or "Culturally specific".ab. or "Cultural specificity".ti. or "Cultural specificity".ab. or "Cultural specificities".ti. or "Cultural specificities".ab. or "Cultural specific".ti. or "Cultural specific".ab. or "Cultural identities".ti. or "Cultural identities".ab. or "Cultural identity".ti. or "Cultural identity".ab. (2354)
126 "Cultural identities".ti. or "Cultural identities".ab. or "Cultural identity".ti. or "Cultural identity".ab. (854)
127 "cultural background".ti. or "cultural background".ab. or "cultural backgrounds".ti. or "cultural backgrounds".ab. (3531)

- 128 culturally compared.ti. or culturally compared.ab. or cultural comparison.ti. or cultural comparison.ab. or cultural comparisons.ti. or cultural comparisons.ab. (1084)
- 129 cultural group.ti. or cultural group.ab. or cultural groups.ti. or cultural groups.ab. (1904)
- 130 cultural aspect.ti. or cultural aspect.ab. or cultural aspects.ti. or cultural aspects.ab. (1564)
- 131 Cultural factor.ti. or Cultural factor.ab. or Cultural factors.ti. or Cultural factors.ab. (6253)
- 132 "culturally enhanced".ti. or "culturally enhanced".ab. (17)
- 133 "culturally grounded".ti. or "culturally grounded".ab. (146)
- 134 "Cultural equivalence".ti. or "Cultural equivalence".ab. (268)
- 135 "cultural fit".ti. or "cultural fit".ab. (50)
- 136 cultural sensitivity.ti. or cultural sensitivity.ab. or cultural sensitive.ti. or cultural sensitive.ab. or culturally sensitive.ti. or culturally sensitive.ab. (5310)
- 137 cultural awareness.ti. or cultural awareness.ab. (664)
- 138 Cultural knowledge.ti. or Cultural knowledge.ab. (483)
- 139 cultural understanding.ti. or cultural understanding.ab. (336)
- 140 cultural expertise.ti. or cultural expertise.ab. (17)
- 141 cultural skills.ti. or cultural skills.ab. (90)
- 142 Culturally informed.ti. or Culturally informed.ab. (301)
- 143 "Culturally safe".ti. or "Culturally safe".ab. or "Cultural safety".ti. or "Cultural safety".ab. (602)
- 144 "Culturally responsive".ti. or "Culturally responsive".ab. or "cultural responsiveness".ti. or "cultural responsiveness".ab. (469)
- 145 "Cultural focus".ti. or "Cultural focus".ab. or "Culturally focused".ti. or "Culturally focused".ab. (92)
- 146 "Culturally relevant".ti. or "Culturally relevant".ab. or "Cultural relevance".ti. or "Cultural relevance".ab. (2238)
- 147 "Culturally congruent".ti. or "Culturally congruent".ab. or "Cultural congruence".ti. or "Cultural congruence".ab. (355)
- 148 "Culturally consistent".ti. or "Culturally consistent".ab. or "cultural consistency".ti. or "cultural consistency".ab. (84)
- 149 multi cultur*.ti. or multi cultur*.ab. or multicultur*.ti. or multicultur*.ab. or inter cultur*.ti. or inter cultur*.ab. or intercultur*.ti. or intercultur*.ab. or cross cultur*.ti. or cross cultur*.ab. or crosscultur*.ti. or crosscultur*.ab. or trans cultur*.ti. or trans cultur*.ab. or transcultur*.ti. or transcultur*.ab. or sociocultur*.ti. or sociocultur*.ab. or socio cultur*.ti. or socio cultur*.ab. or bicultur*.ti. or bicultur*.ab. (36736)
- 150 ethnic bias.ti. or ethnic bias.ab. or ethnic biases.ti. or ethnic biases.ab. (124)
- 151 Racial bias.ti. or Racial bias.ab. or Racial biases.ti. or Racial biases.ab. (473)
- 152 ethnic disparity.ti. or ethnic disparity.ab. or ethnic disparities.ti. or ethnic disparities.ab. (4790)
- 153 Racial disparity.ti. or Racial disparity.ab. or Racial disparities.ti. or Racial disparities.ab. (6747)
- 154 ethnic diversity.ti. or ethnic diversity.ab. or ethnic diversities.ti. or ethnic diversities.ab. or ethnically diverse.ti. or ethnically diverse.ab. (7615)
- 155 ethnic group.ti. or ethnic group.ab. or ethnic groups.ti. or ethnic groups.ab. (40025)
- 156 racial group.ti. or racial group.ab. or racial groups.ti. or racial groups.ab. (5527)
- 157 ethnic aspect.ti. or ethnic aspect.ab. or ethnic aspects.ti. or ethnic aspects.ab. (53)
- 158 racial aspect.ti. or racial aspect.ab. or racial aspects.ti. or racial aspects.ab. (10)
- 159 (barriers adj2 (racial or race or races or ethnic or ethnicity or ethnicities or culture or cultures or cultural or minority or minorities or language or linguistic)).ti. (505)
- 160 (barriers adj2 (racial or race or races or ethnic or ethnicity or ethnicities or culture or cultures or cultural or minority or minorities or language or linguistic)).ab. (4150)
- 161 (racial or race or races or ethnic or ethnicity or ethnicities or culture or cultures or cultural or minority or minorities).ti. or (racial or race or races or ethnic or ethnicity or ethnicities or culture or cultures or cultural or minority or minorities).ab. (1381266)
- 162 "Communication barrier".sh. (890)
- 163 161 and 162 (246)

- 164 "Health care disparity".sh. and ((racial or race or races or ethnic or ethnicity or ethnicities or culture or cultures or cultural or minority or minorities).ti. or (racial or race or races or ethnic or ethnicity or ethnicities or culture or cultures or cultural or minority or minorities).ab.) (4207)
- 165 ("Health inequality".ti. or "Health inequality".ab.) and ((racial or race or races or ethnic or ethnicity or ethnicities or culture or cultures or cultural or minority or minorities).ti. or (racial or race or races or ethnic or ethnicity or ethnicities or culture or cultures or cultural or minority or minorities).ab.) (131)
- 166 "Patient Attitude".sh. and ((racial or race or races or ethnic or ethnicity or ethnicities or culture or cultures or cultural or minority or minorities).ti. or (racial or race or races or ethnic or ethnicity or ethnicities or culture or cultures or cultural or minority or minorities).ab.) (5050)
- 167 "Patient compliance".sh. and (racial or race or races or ethnic or ethnicity or ethnicities or culture or cultures or cultural or minority or minorities).ti. (818)
- 168 "patient compliance".sh. and (racial or race or races or ethnic or ethnicity or ethnicities or culture or cultures or cultural or minority or minorities).ab. (5179)
- 169 "culturally acceptable".ti. or "culturally acceptable".ab. or "cultural acceptability".ti. or "cultural acceptability".ab. (808)
- 170 "Cultural socialisation".ti. or "Cultural socialisation".ab. or "Cultural socialization".ti. or "Cultural socialization".ab. (78)
- 171 92 or 93 or 94 or 95 or 96 or 97 or 98 or 99 or 100 or 101 or 102 or 103 or 104 or 105 or 106 or 107 or 108 or 109 or 110 or 111 or 112 or 113 or 114 or 115 or 116 or 117 or 118 or 119 or 120 or 121 or 122 or 123 or 124 or 125 or 126 or 127 or 128 or 129 or 130 or 131 or 132 or 133 or 134 or 135 or 136 or 137 or 138 or 139 or 140 or 141 or 142 or 143 or 144 or 145 or 146 or 147 or 148 or 149 or 150 or 151 or 152 or 153 or 154 or 155 or 156 or 157 or 158 or 159 or 160 or 163 or 164 or 165 or 166 or 167 or 169 or 170 or 168 (192752)
- 172 (African or Africa or Africans).ti. (95564)
- 173 (Asia or Asian or Asians or South America or South American or South Americans or Central America or Central American or Central Americans or Middle America or Middle American or Middle Americans or Middle East or Middle Eastern).ti. (48466)
- 174 (Arab or Arabs or Afghanistan or Afghan or Afghans or Albania or Albanian or Albanians or Algeria or Algerian or Algerians or Angola or Angolan or Angolans or Antilles or Antigua or Antiguan or Antiguan or Barbuda or Barbadian or Barbadians or Argentina or Argentinian or Argentine or Argentines or Argentinean or Argentinians or Argentineans or Armenia or Armenian or Armenians or Aruba or Aruban or Arubans or Azerbaijan or Azerbaijani or Azeri or Azerbaijanis).ti. (26954)
- 175 (Bahamas or Bahrain or Bahraini or Bahrainis or Bajun or Bajuni or Bajunis or Bangladesh or Bangladeshi or Bangladeshis or Barbados or Belize or Belizean or Belizeans or Benin or Beninese or Bermuda or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Belarussian or Byelorussions or Belorussians or Belarussions or Bhutan or Bhutanese or Bolivia or Bolivian or Bolivians or Bosnia or Bosnian or Bosnians or Herzegovina or I Hercegovina or Herzegovinian or Herzegovinians or Botswana or Batswana or Brasil or Brazil or Brazilian or Brazils or Brunei or Darussalam or Bulgaria or Bulgarian or Bulgarians or Burkina or Burkinabe or Faso or Fasso or Volta or Burundi or Burundian or Burundians or Urundi).ti. (96188)
- 176 (Caledonia or Caledonian or Caledonians or Cambodia or Cambodian or Cambodians or Khmer or Kampuchea or Cameroon or Cameroons or Cameroonian or Cameron or Camerons or "Cape Verde" or "Cape Verdian" or "Cabo Verde" or "Cabo Verdian" or "Cabo Verdians" or "Cape Verdians" or "Cape Verdeans" or "Cape Verdean" or Caribbean or Caribbeans or Chad or Chadian or Chadians or Chile or Chilean or Chileans or China or Chinese or Colombia or Colombian or Colombians or Comoros or Comoro or Comores or Comoran or Comorans or Mayotte or Mahorais).ti. (214737)
- 177 (Congo or Congolese or Zaire or "Cook Islands" or Rica or Rican or Ricans or d'Ivoire or Ivory or Ivoirian or Ivoirians or Cuba or Cuban or Cubans or Curacao or Curacaoan or Curacaoans or Cyprus or Cyprian or Cyprians).ti. (18129)
- 178 (Djibouti or Dominica or Dominican or Dominicans or Ecuador or Ecuadorian or Ecuadorians or Egypt or Egyptian or Egyptians or Salvador or Salvadorian or Salvadorians or Emirates or Emirati or Eritrea or Eritrean or Eritreans or Eswatini or Swaziland or Swazi or Swazis or Ethiopia or Ethiopian or Ethiopians or Faroe or Fiji or Fijian).ti. (34863)

- 179 (Gabon or Gabonese or Gambia or Gambian or Gambians or Georgia or Georgian or Georgians or Ghana or Ghanaian or Ghanaians or Gibraltar or Gibraltarian or Gibraltarians or Grenada or Grenadian or Grenadians or Guam or Guamanian or Guamanians or Chamorro or Guatemala or Guatemalan or Guatemalans or Guinea or Guinean or Guineans or Guiana or Guyana or Guyanese or Guianan or Guianans or Guianese).ti. (71812)
- 180 (Haiti or Haitian or Haitians or Honduras or Honduran or Hondurans or "Hong Kong" or "Hong Kongese" or Hungary or Hungarian or Hungarians).ti. (25652)
- 181 (India or Indian or Indians or Indonesia or Indonesian or Indonesians or Iran or Iranian or Iranians or Persia or Persian or Persians or Iraq or Iraqi or Israel or Israeli).ti. (152161)
- 182 (Jamaica or Jamaican or Jamaicans or Japan or Japanese or Jordan or Jordanian or Jordanians).ti. (133073)
- 183 (Jamaica or Jamaican or Jamaicans or Japan or Japanese or Jordan or Jordanian or Jordanians).ti. (133073)
- 184 (Kazakhstan or Kazakh or Kazakhs or Kenya or Kenyan or Kenyans or Kiribati or Kiribatian or Kiribatians or Korea or Korean or Koreans or Kosovo or Kosovar).ti. (59444)
- 185 (Kuwait or Kuwaiti or Kuwaitis or Kyrgyzstan or Kirghizia or Kyrgyz or Kirghiz or Kirgizstan or Kyrgyzstani or Kyrgyzstanis).ti. (3803)
- 186 (Lao or Laos or Laotian or Laotians or Latin or Latino or Latinos or Lebanon or Lebanese or Lesotho or Lesothan or Lesothans or Basutoland or Basotho or Liberia or Liberian or Liberians or Libya or Libyan or Libyans).ti. (21302)
- 187 (Macao or Macau or Macanese or Macedonia or Macedonian or Macedonians or Madagasca or Madagascan or Madagascans or Malagasy or Malawi or Malawian or Nyasaland or Malaysia or Malaysian or Malaysians or Malaya or Malay or Sabah or Sarawak or Maldives or Maldivian or Maldivians or Mali or Malian or Malians or Mariana or Marshall or Marshallese or Mauritania or Mauritanian or Mauritanians or Mauritius or Mauritian or Mauritians or Agalega or Mexico or Mexican or Mexicans or Micronesia or Micronesian or Micronesians or Mariana or moldova or Moldovian or Moldovia or Moldovan or Moldovans or Moldovians or Monaco or Monacan or Monacans or Mongolia or Mongolian or Mongolians or Montenegro or Montenegrin or Montenegrins or Montserrat or Morocco or Moroccan or Moroccans or Ifni or Mozambique or Mozambican or Mozambicans or myanmar or Myanmarese or Burma or Burmese).ti. (73660)
- 188 (Namibia or Namibian or Namibians or Nauru or Nauruan or Nauruans or Nepal or Nepalese or Nicaragua or Nicaraguan or Nicaraguans or Niger or Nigeria or Nigerian or Nigerians or Niue).ti. (42918)
- 189 (Oman or Omani or Omanis or Muscat).ti. (1895)
- 190 (Pakistan or Pakistani or Pakistanis or Palau or Palauan or Palauans or Palestina or Palestinian or Palestinians or Gaza or West-Bank or "West Bank" or Panama or Panamanian or Panamanians or Paraguay or Paraguayan or Paraguayans or Peru or Peruvian or Peruvians or Philippines or Philipines or Phillipines or Phillippines or Filipino or Filipinos or Philippino or Philippinos or Polynesia or Polynesian or Polynesians or "Puerto Rico" or "Puerto Rican" or "Puerto Ricans").ti. (34822)
- 191 (Qatar or Qatari or Qataris or Rhodesia or Rhodesian or Rhodesians or Romania or Roumania or Romanian or Romanians or Rumania or Russia or Russian or Russians or Rwanda or Ruanda or Rwandan or Rwandans).ti. (58746)
- 192 (Kitts or Nevis or Lucia or Lucian or Lucians or Vincent or Grenadines or "Saint Helena" or Samoa or Samoan or Samoans or "San Marino" or "San Marinese" or "Sao Tome" or "Sao Tomean" or "Sao Tomeans" or Principe or Saudi or Arabian or Arabians or Arabia or Senegal or Senegalese or Serbia or Serbian or Serbians or seychelles or Seychellois or Sierra or Leone or Leonean or Leoneans or Singapore or Singaporean or Singaporeans or Slovakia or Slovakian or Slovaks or Slovenians or Slovenia or Slovenian or Slovenians or Solomon or Somali or Somalis or Somaliland or Somalian or Somalians or "Sri Lanka" or "Sri Lankan" or "Sri Lankans" or Ceylon or Sudan or Sudanese or Suriname or Surinam or Surinen or Syria or Syrian or Syrians).ti. (58161)
- 193 (Taiwan or Taiwanese or Tajikistan or Tadjikistan or Tadjikistan or Tadjik or Tadjiks or Tajik or Tajiks or Tanzania or Tanzanian or Tanzanians or Thailand or Thai or Thais or Timor or Timur or Atoni or Atonis or Leste or Tobagonian or Tobagonians or Togo or Togolese or Tokelau or Tonga or Tongan or Tongans or Tobago or Trinidad or Trinidadian or Trinidadians or

- Tunisia or Tunisian or Tunisians or Turkey or Turkish or Turkmenistan or Turkmen or Turkmenistani or Turkmenistanis or Tuvalu or Tuvaluan or Tuvaluans).ti. (98489)
- 194 (Uganda or Ugandan or Ugandans or Ukraine or Ukrainian or Ukrainians or Uruguay or Uruguayan or Uruguayans or USSR or Soviet or Soviets or Uzbekistan or Uzbek or Uzbeks).ti. (23814)
- 195 (Vanuatu or Vanuatuan or Vanuatuan or Venezuela or Venezuelan or Venezuelans or Vietnam or "Viet Nam" or Vietnamese or Wallis or Yemen or Yemeni or Yemenis or Yugoslavia or Yugoslavian or Yugoslavians or Yugoslav or Yugoslavs or Jugoslavia or Zambia or Zambian or Zambians or Zimbabwe or Zimbabwean or Zimbabweans).ti. (24716)
- 196 (LAMIC or LAMICs or LMIC or LMICs or "LAMI Country" or "LAMI Countries" or "LMI Country" or "LMI Countries" or "third world").ti. (1539)
- 197 (LAMIC or LAMICs or LMIC or LMICs or "LAMI Country" or "LAMI Countries" or "LMI Country" or "LMI Countries" or "third world").ab. (7236)
- 198 ((developing or "less developed" or "under developed" or underdeveloped or "least developed" or crisis or war or "middle income" or "low income" or poor) adj2 (country or countries or nation or nations or area or areas or economy or economies or population or populations)).ti. (21637)
- 199 ((developing or "less developed" or "under developed" or underdeveloped or "least developed" or crisis or war or "middle income" or "low income" or poor) adj2 (country or countries or nation or nations or area or areas or economy or economies or population or populations)).ab. (105259)
- 200 "Developing Countries".sh. (21)
- 201 "Migration".sh. (36626)
- 202 "Refugee".sh. (11624)
- 203 "Immigration".sh. (7014)
- 204 "immigrant".sh. (15559)
- 205 (BME or BEM or BAME or afro or "black and minority ethnic" or "black and ethnic minority" or "black, Asian and minority ethnic").ti. (1213)
- 206 (Hispanic or Hispanics or Amerindian or Amerindians or Kurdish or Kurd or Kurds or Kurdistan or Yezidi or Yezidis or Yazidi or Yazidis or Inuit or Inuits or Eskimo or Eskimos or Kalaallit or Kalaallits or Romany or Romanies or Gypsies or Gipsies or Gypsy or Gipsy or Aborigine or Aborigines or "first nations" or "indigenous").ti. (24881)
- 207 ("Asylum seeker" or "Asylum seekers").ti. (892)
- 208 (Refugee or refugees).ti. (6596)
- 209 (Migrant or Migrants or immigrant or immigrants or emigrant or emigrants).ti. (18473)
- 210 (emigrants or Migrant or Migrants or immigrant or immigrants or emigrant).ab. (39343)
- 211 (displaced and (person or persons or people or group or groups)).ti. (284)
- 212 (displaced and (person or persons or people or group or groups)).ab. (6720)
- 213 172 or 173 or 174 or 175 or 176 or 177 or 178 or 179 or 180 or 181 or 182 or 183 or 184 or 185 or 186 or 187 or 188 or 189 or 190 or 191 or 192 or 193 or 194 or 195 or 196 or 197 or 198 or 200 or 201 or 202 or 203 or 204 or 205 or 206 or 207 or 208 or 209 or 211 (1457255)
- 214 "Mental Disease".sh. (210784)
- 215 "Chronic Mental Illness".mp. (795)
- 216 "Behavior Disorder".sh. (52482)
- 217 "psychological Adjustment".sh. (945)
- 218 "Emotional disorder".sh. (15136)
- 219 "mental Patient".sh. (25387)
- 220 "Psychiatric Symptoms".mp. (14497)
- 221 "Psychopathology".mp. (41851)
- 222 "Thought Disturbances".mp. (80)
- 223 "mental Stress".sh. (78241)
- 224 "Psychological Endurance".mp. (17)
- 225 "Problem Behavior".sh. (4492)
- 226 "Mental Health".sh. (128519)
- 227 mental distress.ti. or mental distress.ab. or mental stress.ti. or mental stress.ab. or mentally stressed.ti. or mentally stressed.ab. (6195)

- 228 mental issue.ti. or mental issue.ab. or mental issues.ti. or mental issues.ab. (60)
- 229 mental disturbance.ti. or mental disturbance.ab. or mental disturbances.ti. or mental disturbances.ab. or mentally disturbed.ti. or mentally disturbed.ab. (1491)
- 230 mental problem.ti. or mental problem.ab. or mental problems.ti. or mental problems.ab. (1457)
- 231 mental disorder.ti. or mental disorder.ab. or mental disorders.ti. or mental disorders.ab. (45739)
- 232 mental disease.ti. or mental disease.ab. or mental diseases.ti. or mental diseases.ab. (3462)
- 233 mental illness.ti. or mental illness.ab. or mental illnesses.ti. or mental illnesses.ab. or mentally ill.ti. or mentally ill.ab. (43877)
- 234 psychiatric disorder.ti. or psychiatric disorder.ab. or psychiatric disorders.ti. or psychiatric disorders.ab. (56790)
- 235 psychiatric disease.ti. or psychiatric disease.ab. or psychiatric diseases.ti. or psychiatric diseases.ab. (8098)
- 236 psychiatric illness.ti. or psychiatric illness.ab. or psychiatric illnesses.ti. or psychiatric illnesses.ab. (12231)
- 237 psychological disorder.ti. or psychological disorder.ab. or psychological disorders.ti. or psychological disorders.ab. (4646)
- 238 psychological disease.ti. or psychological disease.ab. or psychological diseases.ti. or psychological diseases.ab. (380)
- 239 psychological illness.ti. or psychological illness.ab. or psychological illnesses.ti. or psychological illnesses.ab. or psychologically ill.ti. or psychologically ill.ab. or psychically ill.ti. or psychically ill.ab. (494)
- 240 emotional strains.ti. or emotional strains.ab. or emotional strain.ti. or emotional strain.ab. or emotionally strained.ti. or emotionally strained.ab. (402)
- 241 emotional stress.ti. or emotional stress.ab. or emotional distress.ti. or emotional distress.ab. or emotionally stressed.ti. or emotionally stressed.ab. (14335)
- 242 emotional damage.ti. or emotional damage.ab. (46)
- 243 emotional disturbance.ti. or emotional disturbance.ab. or emotional disturbances.ti. or emotional disturbances.ab. or emotionally disturbed.ti. or emotionally disturbed.ab. (2979)
- 244 psychically disturbed.ti. or psychically disturbed.ab. (21)
- 245 psychic strain.ti. or psychic strain.ab. or psychic strains.ti. or psychic strains.ab. or psychically strained.ti. or psychically strained.ab. (47)
- 246 psychic distress.ti. or psychic distress.ab. or psychic stress.ti. or psychic stress.ab. or psychically stressed.ti. or psychically stressed.ab. (434)
- 247 Psychological distress.ti. or Psychological distress.ab. or Psychological stress.ti. or Psychological stress.ab. or Psychologically stressed.ti. or Psychologically stressed.ab. (32253)
- 248 Psychological strain.ti. or Psychological strain.ab. or Psychological strains.ti. or Psychological strains.ab. or Psychologically strained.ti. or Psychologically strained.ab. (558)
- 249 mental ill-health.ti. or mental ill-health.ab. or psychological ill-health.ti. or psychological ill-health.ab. (1039)
- 250 mental health.ti. or mental health.ab. or mental health.ti. or mental health.ab. (165196)
- 251 mental well being.ti. or mental well being.ab. or mental wellbeing.ti. or mental wellbeing.ab. (3484)
- 252 psychological well being.ti. or psychological well being.ab. or psychological wellbeing.ti. or psychological wellbeing.ab. (12168)
- 253 "Adjustment Disorder".sh. (3577)
- 254 "mood Disorders".sh. (340)
- 255 "Bipolar Disorder".sh. (50707)
- 256 "Cyclothymic Personality".mp. (16)
- 257 ("Disruptive Mood Dysregulation Disorder" or "Major Depression").mp. (74114)
- 258 "Major Depression".mp. (73905)
- 259 "Dysthymia".sh. (8127)
- 260 ("Mania" or "Hypomania").sh. (20168)
- 261 "Seasonal Affective Disorder".sh. (1318)

- 262 "anhedonia".sh. (6465)
- 263 "Bipolar Disorder".ti. or "Bipolar Disorder".ab. or "Bipolar Disorders".ti. or "Bipolar Disorders".ab. (41190)
- 264 "Mood Disorder".ti. or "Mood Disorder".ab. or "Mood Disorders".ti. or "Mood Disorders".ab. (24668)
- 265 "Cyclothymic Disorder".ti. or "Cyclothymic Disorder".ab. or "Cyclothymic Disorders".ti. or "Cyclothymic Disorders".ab. (136)
- 266 depression.ti. or depression.ab. or depressions.ti. or depressions.ab. or depressed.ti. or depressed.ab. or depressive.ti. or depressive.ab. (557491)
- 267 "affective Disorder".ti. or "affective Disorder".ab. or "affective Disorders".ti. or "affective Disorders".ab. (21543)
- 268 dysthymic.ti. or dysthymic.ab. or dysthymia.ti. or dysthymia.ab. (3973)
- 269 ("Anxiety Disorder" or "Acute Stress Disorder" or "Generalized Anxiety Disorder" or "Obsessive Compulsive Disorder").sh. (91383)
- 270 "Panic Disorder".mp. or "Phobia".sh. or "Acrophobia".mp. or "Agoraphobia".sh. or "Claustrophobia".sh. or "Social Phobia".sh. or "Separation Anxiety".sh. or anxiety.sh. or Fear.sh. or Panic.sh. or "Panic Attack".mp. (272646)
- 271 agoraphobia.ti. or agoraphobia.ab. or Anxiety.ti. or Anxiety.ab. or Neurotic.ti. or Neurotic.ab. or "Obsessive-Compulsive Disorder".ti. or "Obsessive-Compulsive Disorder".ab. or "Obsessive-Compulsive Disorders".ti. or "Obsessive-Compulsive Disorders".ab. or phobic.ti. or phobic.ab. or phobia.ti. or phobia.ab. or panic.ti. or panic.ab. (286254)
- 272 "Post-Traumatic Stress".mp. or "Posttraumatic Stress Disorder".sh. or "Complex PTSD".mp. or "Psychotrauma".sh. or trauma.ti. or trauma.ab. or traumatised.ti. or traumatised.ab. or traumatized.ti. or traumatized.ab. or PTSD.ti. or PTSD.ab. or "stress disorder".ti. or "stress disorder".ab. or "stress disorders".ti. or "stress disorders".ab. or "post traumatic".ti. or "post traumatic".ab. or posttraumatic.ti. or posttraumatic.ab. or traumatic.ti. or traumatic.ab. or "Adjustment Disorders".ti. or "Adjustment Disorders".ab. or "Adjustment Disorder".ti. or "Adjustment Disorder".ab. (465144)
- 273 "Autism".sh. (59006)
- 274 ("Dissociative Disorder" or "Depersonalization").sh. or "Depersonalization Derealization Disorder".mp. or "multiple personality".mp. or "Dissociation".sh. (37085)
- 275 "Dissociative Disorder".ti. or "Dissociative Disorder".ab. or "Dissociative Disorders".ti. or "Dissociative Disorders".ab. (1207)
- 276 Depersonalisation.ti. or Depersonalisation.ab. or Depersonalization.ti. or Depersonalization.ab. or Dissociation.ti. or Dissociation.ab. (110624)
- 277 ("Impulse Control Disorder" or "Impulsiveness" or "Kleptomania" or "Pathological Gambling" or "Trichotillomania" or "Hoarding Disorder" or "Hoarding").sh. (31220)
- 278 "Impulse Control Disorder".ti. or "Impulse Control Disorder".ab. or "Impulse Control Disorders".ti. or "Impulse Control Disorders".ab. or "hoarding behavior".ti. or "hoarding behavior".ab. or "hoarding disorder".ti. or "hoarding disorder".ab. or gambling.ti. or gambling.ab. or Trichotillomania.ti. or Trichotillomania.ab. (12107)
- 279 ("Eating Disorder" or "Anorexia Nervosa" or "Binge Eating Disorder" or "Bulimia").sh. (46239)
- 280 ("Purging (Eating Disorders)" or "Binge Eating").mp. or "Eating Disorder".ti. or "Eating Disorder".ab. or "Eating Disorders".ti. or "Eating Disorders".ab. or Anorexia.ti. or Anorexia.ab. or Bulimia.ti. or Bulimia.ab. or "Binge Eating".ti. or "Binge Eating".ab. (62355)
- 281 ("Personality Disorder" or "Borderline State").sh. (36622)
- 282 "Obsessive Compulsive Personality Disorder".mp. or "Histrionic Personality Disorder".sh. or "Neurosis".sh. or "Antisocial Personality Disorder".sh. or "Avoidant Personality Disorder".sh. or "Borderline Personality Disorder".mp. or "Dependent Personality Disorder".sh. or "Narcissistic Personality Disorder".mp. or "Paranoid Personality Disorder".sh. or "Passive Aggressive Personality Disorder".sh. or "Schizoid Personality Disorder".mp. or "Schizotypal Personality Disorder".sh. (38770)
- 283 "Personality Disorder".ti. or "Personality Disorder".ab. or "Personality Disorders".ti. or "Personality Disorders".ab. (25580)

- 284 Borderline.ti. or Borderline.ab. or histrionic.ti. or histrionic.ab. or Paranoid.ti. or Paranoid.ab. or schizoid.ti. or schizoid.ab. or Schizotypal.ti. or Schizotypal.ab. or narciss.ti. or narciss.ab. (71163)
- 285 ("Psychosis" or "Affective Psychosis" or "Paranoia" or "Schizophrenia" or "Paranoid Schizophrenia").sh. (231491)
- 286 "Schizoaffective Disorder".mp. (6411)
- 287 Schizophrenia.ti. or Schizophrenia.ab. or Psychotic.ti. or Psychotic.ab. or psychosis.ti. or psychosis.ab. or psychoses.ti. or psychoses.ab. or schizoaffective.ti. or schizoaffective.ab. or schizophrenic.ti. or schizophrenic.ab. or "Multiple Personality".ti. or "Multiple Personality".ab. or "Multiple Personalities".ti. or "Multiple Personalities".ab. (208891)
- 288 ("Sleep Disorder" or "Hypersomnia" or "Insomnia" or "Parasomnia" or "Sleep disordered breathing" or "Sleep Deprivation" or "sleep").sh. (237515)
- 289 "Sleep Wake Disorder".ti. or "Sleep Wake Disorder".ab. or "Sleep Wake Disorders".ti. or "Sleep Wake Disorders".ab. (446)
- 290 "Sleep Disorder".ti. or "Sleep Disorder".ab. or "Sleep Disorders".ti. or "Sleep Disorders".ab. or "Sleeping Disorder".ti. or "Sleeping Disorder".ab. or "Sleeping Disorders".ti. or "Sleeping Disorders".ab. (22306)
- 291 "Sleeping problem".ti. or "Sleeping problem".ab. or "Sleeping problems".ti. or "Sleeping problems".ab. (944)
- 292 "sleep problem".ti. or "sleep problem".ab. or "sleep problems".ti. or "sleep problems".ab. (8799)
- 293 Dyssomnia.ti. or Dyssomnia.ab. or Parasomnia.ti. or Parasomnia.ab. or insomnia.ti. or insomnia.ab. or "restless legs".ti. or "restless legs".ab. (39778)
- 294 ("Toxic Disorders" or "Substance Use Disorder").mp. or "Alcohol Intoxication".sh. or "Alcoholism".sh. (129685)
- 295 "Substance-Related Disorder".ti. or "Substance-Related Disorder".ab. or "Substance-Related Disorders".ti. or "Substance-Related Disorders".ab. (737)
- 296 "Alcohol-Related Disorder".ti. or "Alcohol-Related Disorder".ab. or "Alcohol-Related Disorders".ti. or "Alcohol-Related Disorders".ab. (659)
- 297 alcoholism.ti. or alcoholism.ab. or "alcohol dependence".ti. or "alcohol dependence".ab. or "alcohol dependency".ti. or "alcohol dependency".ab. or "alcohol abuse".ti. or "alcohol abuse".ab. or "substance abuse".ti. or "substance abuse".ab. or "substance dependence".ti. or "substance dependence".ab. (94761)
- 298 "substance dependency".ti. or "substance dependency".ab. or addiction.ti. or addiction.ab. (59583)
- 299 Somatoform.ti. or Somatoform.ab. or somatization.ti. or somatization.ab. or somatisation.ti. or somatisation.ab. or "somatic symptom disorder".ti. or "somatic symptom disorder".ab. or "somatic symptom disorders".ti. or "somatic symptom disorders".ab. (10500)
- 300 selective mutism.ti. or selective mutism.ab. or premenstrual dysphoric disorder.ti. or premenstrual dysphoric disorder.ab. or melancholy.ti. or melancholy.ab. (1862)
- 301 214 or 215 or 216 or 217 or 218 or 219 or 220 or 221 or 222 or 223 or 224 or 225 or 226 or 227 or 228 or 229 or 230 or 231 or 232 or 233 or 234 or 235 or 236 or 237 or 238 or 239 or 240 or 241 or 242 or 243 or 244 or 245 or 246 or 247 or 248 or 249 or 250 or 251 or 252 or 253 or 254 or 255 or 256 or 257 or 258 or 259 or 260 or 261 or 262 or 263 or 264 or 265 or 266 or 267 or 268 or 269 or 270 or 271 or 272 or 273 or 274 or 275 or 276 or 277 or 278 or 279 or 280 or 281 or 282 or 283 or 284 or 285 or 286 or 287 or 288 or 289 or 290 or 291 or 292 or 293 or 294 or 295 or 296 or 297 or 298 or 299 or 300 (2463633)
- 302 "health behavior".sh. or "health behavior".af. (75272)
- 303 ("health belief model" or "health belief").sh. (11438)
- 304 Prevention.sh. (248384)
- 305 Health Promotion.af. (137147)
- 306 ("Health Promotion" or "health program").sh. (192140)
- 307 "Contraception Behavior".af. (64)
- 308 ("Health Risk Behavior" or "Nutrition" or "Nutrition education" or "Meditation" or " healthy Diet " or " Healthy aging ").sh. (117224)
- 309 ("safe sex" or "sexual behavior").sh. (101901)

- 310 "Social Behavior".af. (85216)
311 "Psychosocial care".sh. (17852)
312 "Healthy Lifestyle".af. (9844)
313 "Nutrition".ti. or "Nutrition".ab. or "body weight".ti. or "body weight".ab. or "weight reduction".ti. or " weight reduction ".ab. or "weight loss".ti. or "weight loss".ab. or "sleep hygiene".ti. or "sleep hygiene ".ab. (563001)
314 "Diet ".ti. or " Diet ".ab. or " healthy Diet ".ab. or " healthy Diet ".ti. or "Diabetes".ti. or " Diabetes ".ab. or "Food Intake".ti. or " Food Intake ".ab. or "Nutritional Status ".ti. or " Nutritional Status ".ab. or "Food preferences ".ti. or " Food preferences ".ab. or "Food Habits ".ti. or " Food Habits ".ab. or "Exercise".ti. or " Exercise ".ab. or "sport".ti. or "sport".ab. (1487613)
315 "Physical Fitness".ti. or " Physical Fitness ".ab. or "Physical Education".ti. or " Physical Education ".ab. or "Movement therapy".ti. or " Movement therapy ".ab. or " Physical exertion".ti. or " Physical exertion ".ab. or "Health Education".ti. or " Health Education ".ab. (52882)
316 "Disease Control".ti. or " Disease Control ".ab. or "disease prevention".ab. or "disease prevention".ti. (73123)
317 (Prevention or preventive or prevent or preventative or preventing).ti. (286152)
318 (Prevention or preventive or prevent or preventative or preventing).ab. (1298651)
319 " Healthy People Program ".ti. or " Healthy People Program ".ab. or " Patient Satisfaction ".ti. or " Patient Satisfaction ".ab. or " Obesity Management".ti. or " Obesity Management".ab. or " wellness program".ti. or " wellness program".ab. or " Self Care".ti. or " Self Care".ab. or " Self-Care".ti. or " Self-Care".ab. or " Patient adherence".ti. or " Patient adherence".ab. or " Patient Compliance".ti. or " Patient Compliance".ab. (92476)
320 302 or 303 or 304 or 305 or 306 or 307 or 308 or 309 or 310 or 311 or 312 or 313 or 314 or 315 or 316 or 317 or 318 or 319 (3789678)
321 301 or 320 (5849985)
322 171 or 213 (1586052)
323 91 and 321 and 322 (4143)
