

INPLASY PROTOCOL

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None declared.

Examining the associations between physician-patient communication and adjustment outcomes of patients and physicians: A systematic review protocol

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Review question / Objective: The aims of this systematic review are: first, to critically synthesize current evidence for the associations between physician-patient communication (PPC) and patients' adjustment outcomes; second, to analyse and describe the associations reported to date between PPC and physicians' adjustment outcomes; and third, to identify needs for future research on the outcomes and correlates of PPC. To this end, the proposed systematic review will address the following question: How is PPC related to patients' and physicians' adjustment outcomes?

Information sources: Literature systematic search will be conducted on the following electronic databases: PubMed/Medline, PsycINFO (host: OVID), Embase (host: OVID), SocIndex (host: EBSCO) and Communication Source (host: EBSCO). References cited in articles and in previous systematic reviews will also be further reviewed to locate any additional relevant articles that may have not been retrieved within the primary search.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 14 June 2022 and was last updated on 14 June 2022 (registration number INPLASY202260062).

INTRODUCTION

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associations between physician-patient communication (PPC) and patients' adjustment outcomes; second, to analyse and describe the associations reported to date between PPC and physicians'

adjustment outcomes; and third, to identify needs for future research on the outcomes and correlates of PPC. To this end, the proposed systematic review will address the following question: How is PPC related to patients' and physicians' adjustment outcomes?

Rationale: Physician-patient communication (PPC) is at the core of patient-centred healthcare, as an essential behavioural component of physician-patient interactions and as a process underlying the establishment of a successful relationship in different health settings and clinical contexts (Amutio-Kareaga et al., 2017; Ha & Longnecker, 2010). Empathic communication skills in physicians are considered one of the key competencies for the practice of medicine (Baig et al., 2009; Batalden et al., 2002). Over the last decades, several communication skills training programs, directed at physicians, have been created to improve healthcare practice and patients' adjustment outcomes (e.g., Amutio-Kareaga et al., 2017; Sun et al., 2020; Tulskey et al., 2011; Windover et al., 2014). Adjustment outcomes refer to indicators of psychosocial adjustment (e.g., psychological or emotional wellbeing, social functioning, quality of life) and of self-reported perceptions of health and well-being (Jordan et al., 2016). For instance, it has been fairly documented that the way physicians communicate with their patients is associated with patients' health outcomes (e.g., survival, emotional well-being, functional ability; Street et al., 2009). Moreover, empirical research has been primarily focused on the effects of PPC on patients' specific physical and emotional health improvements (Jiang, 2019; Maly et al., 2010), treatment adherence (Lu & Zhang, 2019; Świętoniowska-Lonc et al., 2020), or well-being (Jiang, 2017; Jiang & Hong, 2021). Although these findings have been reported and analysed in a few systematic reviews (e.g., Georgopoulou et al., 2018; Riedl & Schübler, 2017) and meta-analyses (e.g., Venetis et al., 2009; Zolnieriek & DiMatteo, 2009), several shortcomings prevent a comprehensive and reliable

synthesis of the associations between PPC and patient adjustment outcomes. Some of those limitations include: the restriction of examinations to a single health condition (e.g., rheumatic diseases in Georgopoulou et al., 2018; cancer in Venetis et al., 2009); methodological gaps that hamper the replicability of the study, such as unclear search strings or lack of theoretical rationale for time range limitations (e.g., Riedl & Schübler, 2017); and the disregard of critical and high-quality evidence gathered in a growing number of studies over recent years (e.g., Jiang, 2019; Świętoniowska-Lonc et al., 2020). In fact, it has been suggested that 23% of meta-analyses in health and medical research become out of date within two years after publication, with signals for update occurring within a relatively short time (median of 5.5 years; Shojania et al., 2007). As for the examination of the associations of PPC with physicians' own adjustment outcomes, research is lacking robust evidence. For example, the model of PPC developed by Street and colleagues (2009) only implicitly suggests that PPC also exerts its influence over physician-related outcomes (e.g., shared understanding, rapport, quality of medical decision, social support). Furthermore, there have been recent reports of the positive association between physicians' empathetic interactions with their patients and physicians' own well-being (Weilenmann et al., 2018). Accordingly, communication skills training has been suggested to improve physicians' self-efficacy (Grome et al., 2018), to reduce physicians' emotional flooding and emotional exhaustion (Penberthy et al., 2018), and to prevent the risk of burnout from clinical situations of breaking bad news (Messerotti et al., 2020). Overall, there seems to be a paucity of research addressing other adjustment outcomes (e.g., positive emotion regulation, quality of life, mental health). To our knowledge, no systematic review has been yet conducted to ascertain the associations between PPC and physicians' adjustment outcomes. The systematization of these data would allow a better understanding of which variables have been mostly investigated (and how have

they been examined), and which variables have been neglected, to identify core variables that need to be addressed in future interventions on PPC.

Condition being studied: All health settings, and all patients' health conditions will be acceptable in this review.

METHODS

Search strategy: Literature systematic search will be conducted on the following databases: PubMed/MEDLINE (host: PubMed Central), PsycINFO (host: OVID), Embase (host: OVID), SocIndex (host: EBSCO) and Communication Source (host: EBSCO). The selected search terms were organised in the three following conceptual groups:

Group 1: Communicat*

Group 2: Physician, doctor, clinic*, medic*, health*

Group 3: Patient, client, user, ill*, infect*, people, person

The search strategy will consist of a simultaneous combination of the search terms from those groups, to collect the articles which present that combination in title and/or abstract. Also, whenever possible according to database options, filters will be applied related to language (i.e., English), population groups (i.e., human) and publication type (i.e., article), to exclude in advance those results that would not meet the eligibility criteria (e.g., studies in other languages than English, studies with animals, review articles or editorial pieces), and thus prevent an inflated and unpractical initial number of results. As recommended by Lefebvre and colleagues (2022), and contrary to some previous reviews on the subject (e.g., Riedl & Schubler, 2017), no historical time limitations will be used. The same strategy is to be used in all databases, with the necessary adaptations to fit the web interfaces.

To illustrate the steps to follow in the search in PsycINFO database, an example is provided below:

1. Communicat*.ti. AND communicat*.ab.
2. (physician OR doctor OR medic* OR clinic* OR health*).ti.

3. (physician OR doctor OR medic* OR clinic* OR health*).ab.

4. 2 OR 3

5. (patient OR client OR user OR ill* OR infect* OR people OR person).ti.

6. (patient OR client OR user OR ill* OR infect* OR people OR person).ab.

7. 5 OR 6

8. 1 AND 4 AND 7

9. Limit 8 to English language

10. Limit 9 to human

11. Limit 10 to journal article.

Participant or population: Studies will be included if they target (i) a sample of patients with any clinical condition, and/or (ii) a sample of physicians of any medical specialty. If the collected sample contains several health professionals, results must be discriminated by profession (i.e., specific results for physicians), for the study to be considered eligible.

Intervention: Research articles must conceptualize PPC (including physician communication skills or physician communication skills training) as a predictor. There must be a clear association, as cited within the aims of the study, between PPC and an adjustment outcome in patients and/or physicians.

Comparator: In the case of comparative studies, clinical trials, or randomized controlled trials, focusing on medical communication skills training, there must be a comparison with a baseline, with other training program, or with a control group.

Study designs to be included: Empirical quantitative or mixed-method studies.

Eligibility criteria: Eligible articles must be published in peer-reviewed journals until March 2022 and written in English language.

Information sources: Literature systematic search will be conducted on the following electronic databases: PubMed/Medline, PsycINFO (host: OVID), Embase (host: OVID), SocIndex (host: EBSCO) and Communication Source (host: EBSCO). References cited in articles and in previous

systematic reviews will also be further reviewed to locate any additional relevant articles that may have not been retrieved within the primary search.

Main outcome(s): No specific outcome was defined in the broad scope of adjustment outcomes, since one of the aims of the systematic review is to understand what kind of outcomes have been examined in relation to PPC. Therefore, any relevant adjustment outcome will be considered.

Data management: All results from the application of the defined search strategy in all the selected databases will be collected, with duplicates being removed. Then, articles will go through a first screening by title and abstract for eligibility criteria, considering that titles/abstracts should simultaneously contain keywords from group 1 and at least one search term from group 2 and/or 3. Full texts will be retrieved for all potentially relevant articles identified, then proceeding to a second screening aimed at further selecting studies that correspond to the defined eligibility criteria. Both screenings will be performed by two reviewers, with disagreements discussed until consensus. Data extraction process will be conducted by two reviewers and double-checked by a third, resulting in the following information for each included study:

1. Publication information: authors, year of publication and country.
2. Methods: study design.
3. Sample: sample size and age of the participants (range, mean, SD), discriminating between physicians and patients; clinical characteristics (health setting, medical specialty [in physicians' samples]); clinical condition/primary diagnosis [in patients' samples].
4. Intervention: conceptualization of PPC construct; instrument used for assessing PPC; if applicable, description of communication skills training program (number of sessions, duration, main contents).
5. Outcomes: list of dependent variables directly and/or indirectly associated with PPC.

6. Main results: direction and strength of the association between PPC and outcomes.

For unavailable articles or insufficient pertinent data, authors will be contacted by email. If contact attempts fail, data will be excluded from the analysis, with the respective limitations being addressed in the discussion section.

Quality assessment / Risk of bias analysis: Two authors will independently evaluate the quality of each included article, based on the Mixed-Methods Appraisal Tool (Hong et al., 2018), and the Kappa index will be applied for inter-rater agreement analysis.

Strategy of data synthesis: Descriptive statistics will be presented for the extracted data, to characterize methodological aspects (e.g., frequencies for sample data, PPC instrument used or type of examined outcome). If possible, a sample of articles will be extracted to perform a meta-analysis of correlations between PPC and patients' or physicians' adjustment outcomes, using Review Manager Software (RevMan). Therefore, correlation coefficients obtained in individual studies will be pooled following the Schmidt-Hunter random-effects model method (Field, 2001) and reported with 95% confidence intervals (CI). Heterogeneity across included studies will be calculated with I² statistic.

Subgroup analysis: If applicable, subgroup analysis by gender, medical specialty and by patients' primary diagnosis will be performed.

Sensitivity analysis: A sensitivity analysis will be performed based on a qualitative contrast of each article quality ratings (Hong et al., 2018). Funnel plots will be used to assess publication bias.

Language: Eligible articles must be written in English language.

Country(ies) involved: Portugal.

Keywords: systematic review protocol; physician-patient communication; patient-reported outcomes; physicians' outcomes; adjustment outcomes.

Dissemination plans: The results from this systematic review will be published in a peer-reviewed journal classified in the Q1 for Health/Medicine/Psychology.

Contributions of each author:

Author 1 - Ana Cláudia Alves-Nogueira - Conceptualization, methodology, formal analysis, and writing - original draft preparation.

Email: a.claudia.nog21@gmail.com

Author 2 - Ana Carolina Góis - Formal analysis.

Author 3 - Maria Cristina Canavarro - Conceptualization and supervision.

Author 4 - Cláudia Melo - Conceptualization and supervision.

Author 5 - Carlos Carona - Conceptualization, supervision, methodology, and revision of the original draft.