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SELF-RATED HEALTH AND HEALTH INDEX – A REVIEW

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Abstract
Self-rated health as a statistical variable commonly occurs in medical field research. Hence observing the health measures that have been featured in studies over the past few years is essential for future research. Having an overview of Self-Rated Health (SRH) is a great way to provide further solution for new approaches. This Systematic Review contributes to the literature related to health measures by summarizing the latest relevant papers published between 2018 and 19th April 2023 regarding SRH and other health approaches. Monitoring the health measures used in the relevant articles for past years and observing their frequency helps to find out if there is a need to create a better health measure. 598 open access English papers were found on Scopus by searching the terms „health index" and „self-rated health" from 2018 to 19th April 2023. The steps for this systematic review include the selection of literature, the inclusion/exclusion criteria, the screening of the SRH and other health measures of approaches and the data extraction. The review question is regarding the evaluation of SRH in comparison with other approaches: "Does SRH occur more in this sample than other health approaches?". The aim of this review is to provide researchers and health policy makers an overview of the SRH used in latest research on Scopus by searching for both subjective and objective measure terms. The main finding was that for the selected articles the SRH is more common than the other health approaches. 77.4% of the examined abstracts include SRH and 22.6% include other health measures or health approaches or both - SRH and a different health measure or approach. A future research directive is to test a health index and compare it with the existing ones.
Keywords: *self-rated health; health index; systematic review; health policy making.*
JEL Classification: I1.

1. INTRODUCTION

Public health policy making requires being supported by decision-making tools, data analyses. (Prasinos *et al.,* 2022). Hence observing the health measures that have been featured in studies over the past few years is a major focus for research. In this paper are gathered the health measures used in the past years in research. However, having an overview of the variables used for measuring health is a great way to provide further solution for new approaches of health indexes.

Looking back in 2002, as a result of the Marrakech Conference, has been published on World Health Organization Library a set of studies about measuring health. Has been stated that the true level of health may be expressed by tested health, observed health and perceived health on an individual level. Specifically, health can be measured by laboratory health tests or functional tests, by clinical assessments of professionals or other assessments. The WHO has pointed out that there is no ideal measure of health that covers all aspects of health or assesses everything that people perceive (Iburg *et al.,* 2001). Health is difficult to measure. It is well known that health has many dimensions, and reflects the interaction of a set of factors including the mental, physical and social well-being, genotype and phenotype influences (Thomas and Frankenberg, 2002) The population health may be described also through health indexes. One of those is SF-6D Survey having as the most important dimensions the mental health, the physical functioning and the pain. Also, modelling data on stated preferences is also becoming increasingly essential to support health policy makers (Brazier, Rice and Roberts, 2002).

In terms of the health indexes, the SF-36 survey is one of those surveys that measure health on several dimensions. The items are related to perception about health (Brazier, Roberts, and Deveril, 2002). The SF36 survey uses eight dimensions and three categories: well-being, functional health and general health. The scores are between 0 and 100, and at the end they are summed up (Garratt *et al.*, 1993). Moreover, some authors have addressed about the SF12 survey which was developed from the SH36 survey. SF12 took 12 items from SF36. Two summary scores were generated, mental and physical health (Brazier and Roberts, 2004). SF36 was also mentioned in an article about measuring health in arthritis. It was said that the two categories created, physical and mental health, are valid and reliable in Rheumatoid Arthritis patients (Ruta *et al.,* 1998).

With reference to self-rated health, in an article about health-status measurements, the authors used the questions related to subjective measure of health, rating health on a scale of 1 to 5, from very bad to excellent. A question has also been added asking respondents about their overall health compared to a week ago (Cieza *et al.,* 2002). In a study on health measurement as a predictor for the elderly, the hypothesis was that perceived health status is a predictor of mortality among the elderly independent to objective health status. Data from the Manitoba Longitudinal Study on Aging was used. A single item was used for subjective health status and an index was created for objective health status based on respondent-reported conditions and health service use. The date of death was recorded as 1971-1977 (Mossey and Shapiro, 1982). In the article " A New Measure of Health Status for Clinical Trials in Inflammatory Bowel Disease" the authors have designed a subjective health measure for inflammatory disease patients using quality of life (Guyatt *et al.,* 1989).

In regards with health policies, it is essential for a health index to be suitable for measuring and monitoring changes in health at community or national level. In 2003, it was stated that a multi-dimensional population health index would be a very useful tool to achieve health policy strategies. In addition, more research on this area is needed to identify which health indicators could be combined and the best method to achieve this (Kaltenthaler, Beverley and Maheswaran, 2004).

This Systematic Review contributes to the literature related to health measures by summarizing the latest relevant documents published between 2018 and 19th April 2023 regarding health measures used. Monitoring the health measures used in the relevant articles for past years and observing their frequency helps to find out if there is a need to create a better health measure. The search is only limited to English language and limited to open access. The articles are selected from Scopus database. The aim of this review is to provide researchers and health policy makers an overview of the SRH and other health measures and approaches. The focus is on the frequency of Self-rated health for the selected sample. After the document's selection, 598 documents are chosen from Scopus database. The SRH and other health approaches from the abstracts are extracted from each.

The frequency of SRH and "Other" from the selected sample are observed. The review question is regarding the evaluation of SRH: "Does Self-rated health occurs more in this sample than other health approaches?".

In the next section, a brief history of some systematic reviews that have already been conducted is outlined. Then the methodology of the Systematic review is illustrated, followed by the implementation part, specifically the table and graphs with useful information on SRH. Then are the discussion and conclusion part, including some pointers for future research in measuring health.

2. EARLIER REVIEWS

In 2003 a systematic review was conducted for the health indexes known at that time. Studies from 1966 were also the evidence base for the systematic review. The authors performed a general search of the literature using keywords such as health status indicators, health indices, and after some time (March 2001) added more specific keywords such as health status index, gross national health product, cumulative disease index, health status measure, general index of health, etc. to the search. Of the 972 references identified from the references only 73 were considered relevant, selecting only those that were population-wide, not individual-level. They extracted components such as index, country, index description and index usefulness, including health indicators and index validation. (Kaltenthaler, Beverley and Maheswaran, 2004)

A systematic review for subjective well-being measure for 2007-2012 was performed. Subjective well-being was classified into subjective and objective. (Lindert *et al.,* 2015). A systematic review for HRQL (health-related quality of

life) in injury using health measure such as SF-36 and EQ-5D was conducted for 1995-2009 period. The focus was for HQRL. In the article's selection the search was also about health status measure, but the focus was on injuries and HRQL. They selected the relevant articles who met the set criteria and screened the title, abstract and the full text and tabulated the data (Polinder *et al.,* 2010). In 2011, a review for general health measures and HRQL has been conducted. The criteria for the articles was about rheumatology literature and for the adults only. SF-36, SF-12, Euro-Qol 5 domain are some of the measures used for assessing the general health and HRQL (Busija *et al.,* 2011). In 2015 has been conducted a systematic review for health measure and well being in regards with interventions evaluations. The temrs used for selection of the studies are not only related to health measure (i.e. community, wellbeing or quality of life) (Dronavalli and Thompson, 2015).

3. METHODS

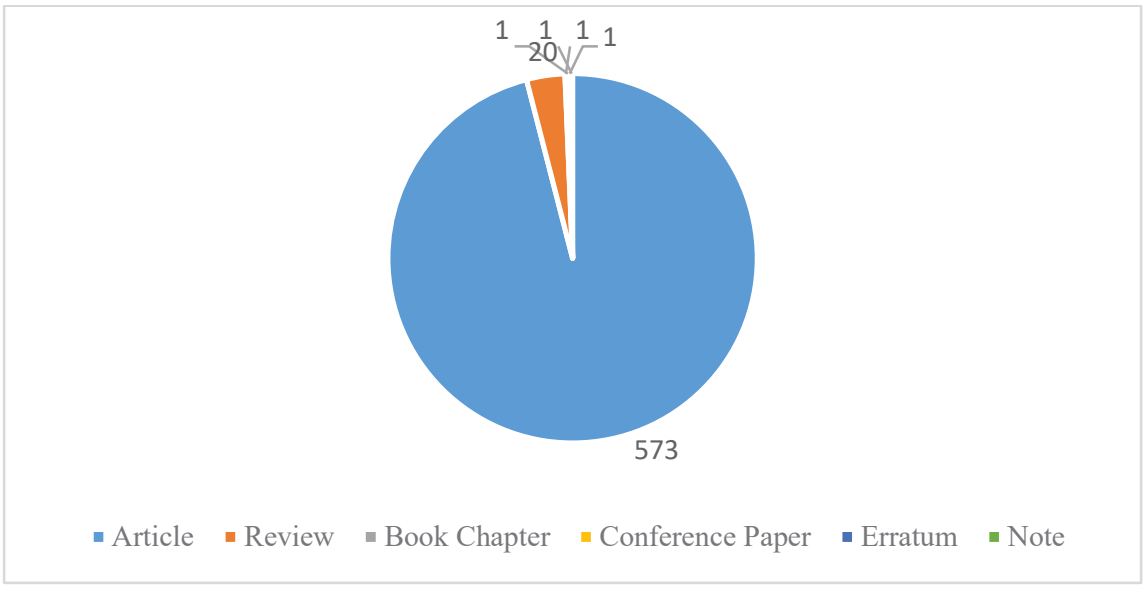
The steps are: selection of the documents, presenting the criteria for inclusion/exclusion, screening the Self-rated Health and other health measures and approaches and data extraction.

3.1. Document selection

The first step is to identify the documents which are related to health measure, including Self-rated health and health indexes, starting 2018 and ending 19th of April 2023. The search strategy includes terms as health index and Self-rated health. The database used for searching is Scopus. The language is limited to English only and the access of the articles to "open access". The output search from Scopus is displayed below:

(TITLE-ABS-KEY (*health* AND *index*) AND TITLE-ABS-KEY (*self-rated* AND *health*)) AND (LIMIT-TO (OA , *"all"*)) AND (LIMIT-TO (PUBYEAR , *2023*) OR LIMIT-TO (PUBYEAR , *2022*) OR LIMIT-TO (PUBYEAR , *2021*) OR LIMIT-TO (PUBYEAR , *2020*) OR LIMIT-TO (PUBYEAR , *2019*) OR LIMIT-TO (PUBYEAR , *2018*)) AND (LIMIT-TO (LANGUAGE , *"English"*))
(extracted on 19 April 2023)

There are 598 documents to be screened; most of them are Articles, followed by the Reviews and Book Chapter, Conference Paper, Erratum and Note, as shown in Figure 1.



Source: own processing

Figure 1. Type of document for the selected sample

One duplicate is excluded from the analysis, 1 outlier from 1994 as well.

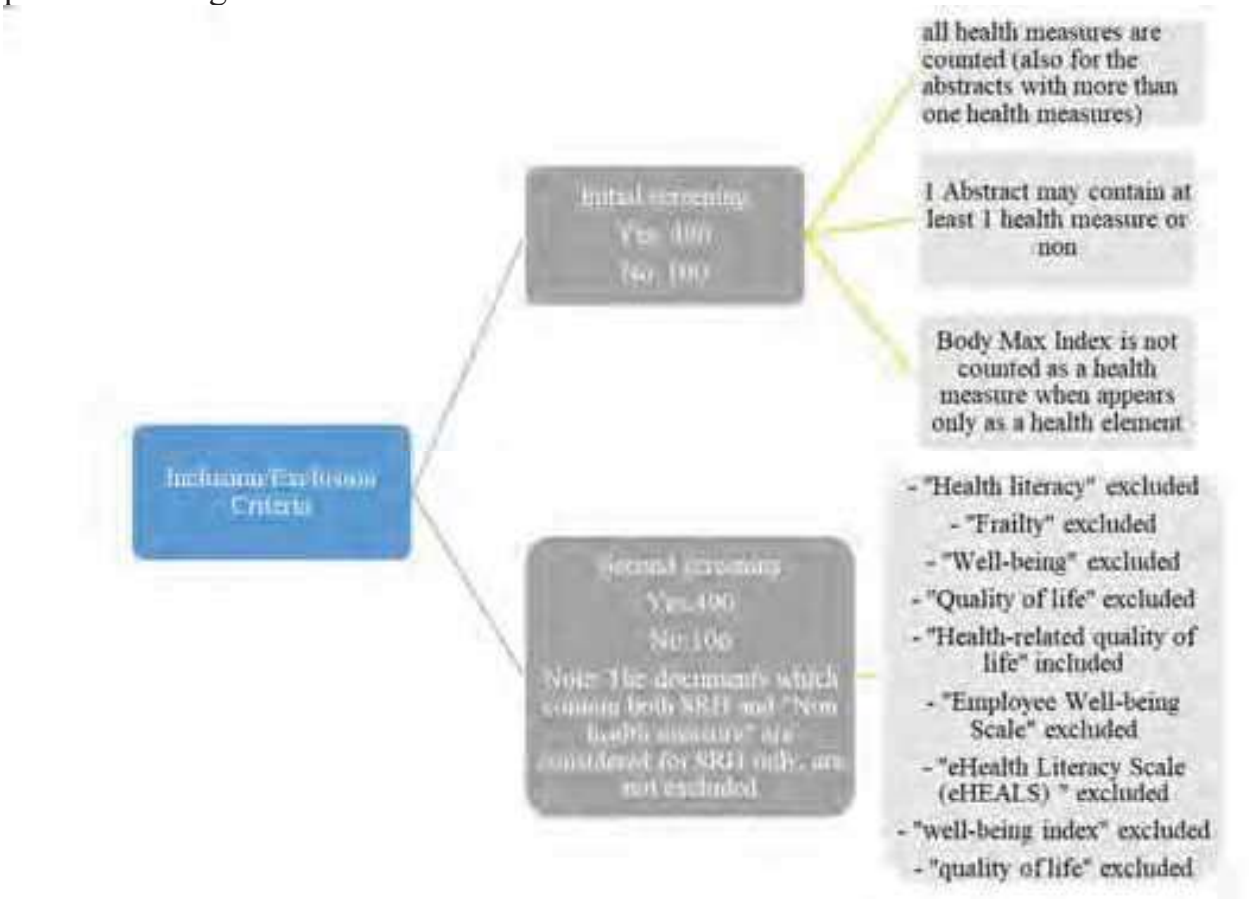
At the first check, we have 598 documents, but two of them are excluded, as they are duplicate and outlier (Figure 2).

Source: own processing

Figure 2. Document selection

3.2. Criteria for inclusion/exclusion

The ground rules for inclusion and exclusion help us to keep focusing on the purpose of this paper. The initial screening counted all health measures and approaches from the abstracts. An abstract may contain one or more health measures or even none. The "Yes" ones are all considered. The information is provided in Figure 3.



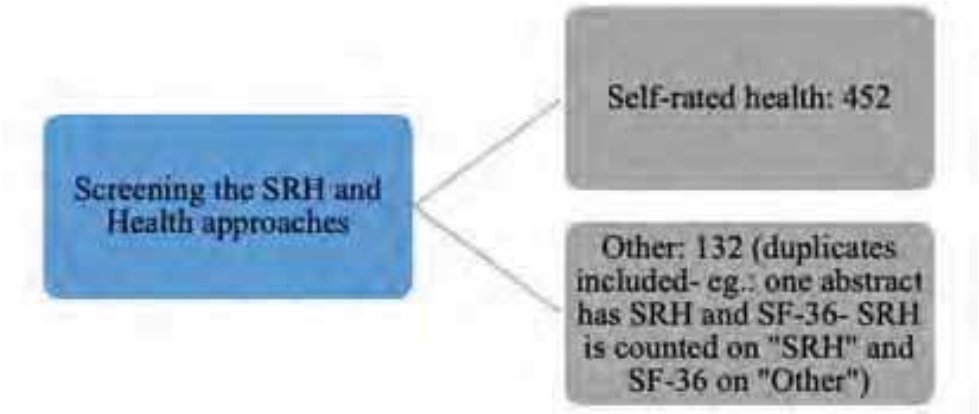
Source: own processing

Figure 3. Inclusion/Exclusion criteria

The second screening excluded 6 documents but included some others which contained also another health measure considered already.

3.3. Screening the health measures

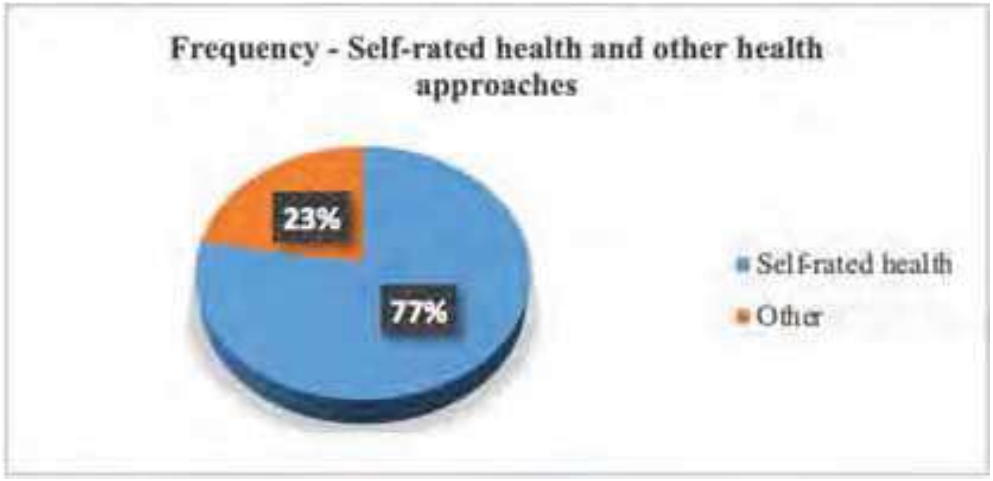
For this systematic review, the screening examines the abstracts. The frequency of the SRH and "Other" is tabulated in the data extraction (Figure 4).



Source: own processing

Figure 4. Screening the SRH and Health approaches

From all the „Yes" abstracts, only 452 have in their content the Self-rated health or other similar term for it. The „Other" found are 132, which include the duplicates with one or more accepted approaches for health measure.



Source: own processing

Figure 5. Frequency of SRH and Health approaches

In Figure 5, 77.4% of documents have SRH in their abstract content, and 22.60% have "Other" health measure or approach in their abstract.

3.4. Data extraction

The relevant information included in the data extraction is the health measure, the count and the frequency observed.

Table 1. Frequency of Self-rated health and Other

Health Approach	Count	Frequency
Self-rated health	452	77.40%
Other (including health index, SF-36, Health-ralated quality of life, etc.)	132	22.60%
Total	584	100%

Source: own processing

Self-rated health is the most comon in the selected sample. The others have only 22.6% use in the past few years.

4. DISCUSSION

Most of the abstracts have Self-rated health in their Abstract content. 77.4% of the reviewed abstracts contain SRH and 22.6% contain other health measures or health approaches or both- SRH and another health measure or approach. Within "Other", 14.38% of the abstracts are mainly about Short Form V.2, SF-36, SF-36, SF-12, SF-6D, health related quality of life, EQ-5D, EQ-5D-3L, EQ-5D-5L, CDC HRQOL-4. Thirty-three health measures or health approaches have less than 1% frequency of occurrence in the selected "Yes" sample.

On this analysis, the most cited two health measure approaches from the first most cited two documents from all the "yes" documents are presented in Table 2.

Table 2. The most cited 2 documents from the sample

Year	Health measure approach	Cited by
2019	EQ-5D, EQ VAS (Janssen *et al.,* 2019)	127
2021	Self-rated physical health (Corley *et al.,* 2021)	97

Source: own processing

2019 was the year with the most cited document from our sample, followed by 2021 having SRH as a health measure.

5. CONCLUSION

Self-rated health may be a challenge for statisticians and medical researches. As a result, in this review, SRH occurs 74.4% from the selected sample of articles. So the most common health measure in the selected sample (abstracts) is Self-rated health. Other approaches for health are less frequently observed. The aim of this study was to provide researchers and health policy makers an overview of SRH and other health approaches used in the latest research. 77.4% of the examined abstracts include SRH and only 22.6% covers other health measures or health approaches or combined - SRH and another health measure or approach.

Does SRH measure health accurately? - this is a research direction that would help health policy makers in their decisions. Health policy making are usual supported by the data and statistics side and if it is found that another measure of health as a variable would be more suitable in studies, then it would automatically improve decisions. A future research directive is to test a health index and compare it with existing ones.

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