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Review Paper

The relationship between socio-economic status and access to eye health services in the UK: a systematic review

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ABSTRACT

Objectives: Lower socio-economic status has been shown to adversely affect access to general health care. This study aims to determine the existence and nature of an association between socio-economic status and access to eye health services in the UK.

Study design: Systematic review.

Methods: Search terms were run in four databases and reviewed against a pre-agreed set of inclusion and exclusion criteria by two independent reviewers. Quality of studies was assessed according to calculations of statistical significance, size of effect, primary research question and a quality score against an adapted STROBE checklist.

Results: Good quality studies included in the review most commonly concluded that lower socio-economic groups had less access to eye health services than higher socio-economic groups. However there were a comparable number of studies that concluded that there was no association. This discrepancy was largely attributed to different ways of measuring socio-economic status, access, and types of eye health services, and so studies did not compare the same thing. The evidence base was of low quality, limiting the ability of this review to make definitive conclusions.

Conclusions: The review concluded that there is equal and weak evidence of lower socio-economic groups having reduced access to eye health services in the UK, and there being no association. This subject would benefit from further research to improve the quality of the evidence base.

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Introduction

Socio-economic status (SES) has been shown to affect access to health care; people from lower socio-economic groups are less likely to access services than those from higher socio-economic groups.[1–3] SES is frequently defined using a range of financial, occupational and educational variables that are combined into a single measure.[4] Each of these variables can be employed as individual indicators of SES as they have been shown to influence the ability to access health care; for example lack of education might limit an individual's

understanding of the importance of screening.[5] Composite measures of SES can be attached at person- or postcode-level (the latter of which gives an indication of the SES of all persons living within that postcode): each have been shown to have an independent effect on health equity,[6] and are each able to describe the social and environmental determinant of health.[7,8]

People living in areas of greater socio-economic deprivation, among communities with greatest need, are less likely to have access to good quality health care (called the 'inverse care law').[3] Identification of inequalities in access is important as there is potential for system and service redesign to improve access for people from lower socio-economic groups.[9] The identification of these inequalities is a critical first step in informing and directing corrective action.

Eye health differs from other health services as it is delivered in highstreet settings, in addition to more traditional primary care, community screening services and secondary and tertiary hospital eye services. This is true of eye health system arrangements in the UK, but not all countries, and for this reason this review has been limited to the UK only. Attempts have been made to examine the relationship between SES and access to eye health services in the UK. However, studies have not reached consistent conclusions as they either only examined one aspect of eye health, such as cataract surgery,[10,11] or reached opposing conclusions that less deprived populations have worse access to eye health services[12,13] and more deprived population had better access.[14] This paper systematically reviews available evidence to determine the relationship between SES and access to eye health services in the UK.

Methods

Inclusion and exclusion criteria

The review included studies from the UK that assessed the relationship between any marker of SES and access to, use of, or provision of, eye health, and were published in an English language peer-reviewed journal between 1990 and March 2013. Health care reforms were implemented in the 1990s, which increased concern about equity of access; 1990 is therefore the cut off for this review. Reviews, commentaries, viewpoints or reports were excluded. Studies reporting only intention to use eye health services or prevalence of eye conditions without including service use were excluded. Studies that assessed access to care without a comparison group were also excluded.

Search methods

The search strategy combined terms relating to eye health and eye health services with terms relating to sociodemographics, and additional terms related to the UK, as shown in Table 1. A decision was made to omit a fourth set of search terms related to 'access' as they were found to be too restrictive and limited the sensitivity of the overall search strategy. A broader definition of access arose from the retrieved literature based on the other three sets of search terms, which encompassed accepted conceptions of access in terms of demand, supply and utilisation.[15]

Search terms were modified where necessary and the search run in Medline, CINAHL, Embase and Web of Science. The searches were conducted in March 2013.

Data extraction and analysis

Search results from the four databases were merged. Duplicates and non-eye health related or non-UK specific papers were excluded. Titles and abstracts of the remaining papers were assessed against the inclusion and exclusion criteria by two independent reviewers. The resulting papers were pooled and disagreement between the reviewers was resolved through discussion, Fig. 1.

The data extraction process was conducted by one reviewer and verified by a second reviewer. The data items extracted for each paper were: title, author, year of publication, citation, study design, sample size, loss to follow-up, eye disease, marker of deprivation, marker of access, setting, population, comparison group, primary outcome measure, results (including size of effect), findings and accordance with the STROBE 22 item checklist.[16]

Assessment of quality

An amended version of the STROBE checklist[16] is used as a measure of quality. It is accepted that the STROBE checklist was developed for the purposes of reporting observational studies. However in the absence of a single recommended tool for the assessment of quality of observational studies,[17] the items on the STROBE checklist have here been interpreted in terms of their appropriateness of design to answer the study question. Scores were summarized as 0—11 = 3, 12—17 = 2, 18—22 = 1, with one representing the highest quality observational studies. This assessment was supplemented by consideration of whether the subject of this review was the primary research question, the size of effect and inclusion of calculations of statistical significance.

Results

Results of the literature search

The search identified 4856 papers, which was reduced to 925 papers after duplicates and non-eye health or non-SES related papers were removed. Of these, 96 papers were considered to meet the inclusion and exclusion criteria based on title and abstract but a review of the full text reduced this number further to 37 papers.[10—14,18—49] No additional papers were found following a review of references. Two papers used the same dataset, however both were included as they examined different indicators of access.[11,30]

Characteristics and quality of the studies

In the 37 papers reviewed there were eight measures of eye disease, 13 measures of SES, though some studies used more than one measure, and five measures of access to eye care