

Exposure to Fictional Medical Television and Health: A Systematic Review

Appendix I: Research Protocol

A. Research Objective

To characterize scholarly research examining the exposure to the portrayal of health care and health-related issues on fictionalized television programs and non-health professional students' knowledge, perceptions, and/or behaviors.

Further Definition of Research Question:

1. Study: Scholarly research
 - a. Peer-reviewed journal article
 - b. Not thesis
 - c. Not conference presentation
 - d. Not opinion piece
2. Exposure: Fictionalized medical television by a non-health student or professional viewer
 - a. Meets Academy of Television Arts & Sciences primetime Emmy awards definition of primetime television drama or comedy series:
 - i. Originally aired in the primetime period (6:00 PM 2:00 AM) by broadcast to at least 50% of the total potential U.S. television audience and/or pay/basic cable transmissions
 - ii. Programs with multiple episodes (minimum of six)
 - b. Not a reality TV show
 - c. Fictional characters
 - d. Premiered in 1994 or later
 - e. Originally broadcast in the United States
 - f. Health-related setting
 - i. At least 50% of scenes in hospital or medical office
 - ii. At least 50% of main characters are health professionals and/or involved in the provision of health care
 - g. Individual viewing the show is not a health student or professional
3. Outcome: Assess associations between program exposure and viewers' perceptions, knowledge, and/or behaviors.
 - a. Involves survey and/or interview of non-health professional student human subjects
 - i. Knowledge: acquisition of specific facts
 - ii. Perceptions: attitudes and beliefs
 - iii. Behavior: specific action steps

B. Selection Criteria - Viewers

Major criterion	Further definition of criterion	Example satisfying this criterion	Example not satisfying this criterion
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1. Study: An included study must be scholarly research published in English			
	<p>1A. Articles must be in a peer-reviewed journal in medicine, public health, or social science (e.g., arts journals excluded)</p> <p>1B. Must be a research study in a peer-reviewed journal</p> <p>1C. Articles must in an English language journal</p>	<p>Article in American Journal of Preventive Medicine</p> <p>Article reporting results of a peer-reviewed research study would be included</p> <p>A study conducted in France but published in an English language journal would be included</p>	<p>Newspaper article, Conference presentation, unpublished thesis would not be included</p> <p>Letter to the editor, narrative study, or comment would not be included</p> <p>A study published in a French journal that is not available in English would not be included.</p>
2. Exposure: Must involve exposure to fictionalized medical TV programming premiering in 1994 or later by non-health students or professionals			
	<p>2A. Meets Academy of Television Arts & Sciences primetime Emmy awards definition of primetime television drama or comedy series</p> <p>2B. Premiered in 1994 or later</p>	<p><i>ER</i> and <i>Grey's Anatomy</i> are included</p> <p><i>ER</i> is included</p>	<p>A movie located in a hospital or medical office would not be included, even if there are multiple sequels</p> <p><i>Dr. Quinn, Medicine Woman</i> (premiered in 1993), is not included</p>

	<p>2C. The majority of television shows assessed must take place at least 50% of the time in a hospital or healthcare office setting with main characters that are health professionals</p> <p>2D. Individuals exposed are non-health professional students or professionals</p>	<p>Programs located in emergency rooms, hospital wards, or outpatient office settings are included</p> <p>A study involving the exposure of high school students to episodes of <i>ER</i> would be included</p>	<p>Programs occurring primarily in a health professional's home (e.g. <i>Frasier</i>) or with non-health professional main characters (e.g. <i>Breaking Bad</i>) are not included</p> <p>A study involving the exposure of medical students to a clip from <i>ER</i> would not be included</p>
3. Outcome: An included study must assess non-health professional viewers' knowledge, perceptions, and/or behaviors.			
	<p>3A. Must involve survey and/or interview of non-health professional human subjects</p> <p>3B. Must assesses associations between exposure and viewers' knowledge, perceptions, and/or behaviors</p>	<p>A study which surveyed viewers about their health knowledge and/or behavior would be included</p> <p>A study asking viewers about their perceptions' of gender roles among hospital workers, which may affect provision of care, is included</p>	<p>A content analysis of a medical drama without a survey of individuals would not be included</p> <p>A study reporting on the number of people who watched an episode of <i>Scrubs</i> without viewer feedback would not be included</p>

C. Major variables assessed during data extraction

1. Logistic

- a. Unique ID Number
- b. Full reference
- c. Database Source
- d. Year
- e. Location
- f. Funding Source

2. Population

- a. Participant type (e.g. adults, teenagers)
- b. *n* analyzed
- c. Recruitment method
- d. Response rate (%)
- e. Demographics
- f. Age range
- g. Age mean
- h. Percentage female

3. Exposure

- a. Name of show(s)
- b. N total episodes
- c. Exposure details
- d. Health topic
- e. Category of study (e.g. education vs. perception)

4. Outcome

- a. Covariates/Control variables
- b. Assessment tools
- c. Assessment timing
- d. Main outcomes
- e. Secondary outcomes
- f. Outcome type (knowledge, perception, or behavior)
- g. Overall impact of exposure (positive, negative, none)

5. Quality

- a. Study population (size, representative vs. self-selected)
- b. Study Design type (e.g cross sectional, longitudinal)
- c. Control group (Y/N)
- d. Outcome measure
- e. Other comments regarding quality

6. Additional comments

Appendix II: Database search strategies

Database	Search strings used
Medline	<p>((((((((((("medical television"[tiab] OR "medical TV"[tiab] OR medical drama*[tiab] OR "entertainment television"[tiab])) OR ("popular television"[tiab] OR "popular TV"[tiab] OR "primetime TV"[tiab] OR "primetime television"[tiab] OR "primetime TV"[tiab] OR "prime time television"[tiab] OR "prime time tv"[tiab] OR television program* [tiab] OR "television series" [tiab] OR "TV series"[tiab] OR "drama series"[tiab])) OR ("dr house"[tiab] OR "grey's anatomy"[tiab] OR "nurse Jackie"[tiab] OR "chicago hope"[tiab] OR Nip/Tuck[tiab])) OR "entertainment-education"[tiab]) OR ((primetime[tiab] OR "prime time"[tiab]) AND (entertain*[tiab] OR fictional[tiab] OR series[tiab]))) OR (((((((drama*[tiab] OR drama*[ot] OR "Drama"[Mesh] OR fictional[tiab] OR fiction[tiab] OR portrayal*[tiab])) OR ((er[tiab] OR "er s"[tiab] OR "e r"[tiab] OR House[tiab] OR scrubs[tiab] OR "private practice"[tiab] OR Hawthorne[tiab] OR Gideon*[tiab])) OR ("Physicians"[Mesh] OR "Physician's Role"[Mesh] OR doctor[title] OR doctors[title] OR physician[title] OR physicians[title] OR "Nurses"[Mesh] OR "Nursing"[Mesh:NoExp] OR "Nurse's Role"[Mesh] OR nurse[title] OR nursing[title] OR nurses[title]))) AND ((television[tiab] OR TV[tiab] OR television[ot] OR TV[ot] OR "Television"[Mesh:NoExp])))) NOT (("Letter" [Publication Type] OR "Editorial" [Publication Type] OR "Comment" [Publication Type])) AND ("1994/01/01"[PDAT] : "2015/12/31"[PDAT]) OR (inprocess[sb] OR (publisher[sb] NOT pubstatusnihms[All Fields] NOT pubstatuspmcsd[All Fields] NOT pmcbook[All Fields]))))</p>
PsychInfo (OvidSP)	<ol style="list-style-type: none"> 1. (medical drama or medical dramas or medical shows).mp. 2. entertainment televis*.mp. 3. entertainment education.mp. 4. (greys anatomy or nurse Jackie or house md or nip tuck or chicago hope).mp. 5. (medical adj2 television).mp. 6. popular adj telev\$.mp 7. 1 or 2 or 3 or 4 or 5 or 6 8. (tv or television or televised).mp. 9. (storyline or hawthorne or ER or scrubs or house).mp. 10. exp Drama/ or drama*.mp. 11. (primetime or prime time).mp. 12. (physician* or doctor* or nurs*).mp. 13. exp medical personnel/ 14. 9 or 10 or 11 or 12 or 13 15. 8 AND 14 16. (entertain* or fiction* or series or medical).mp. 17. 11 and 16 18. 7 or 15 or 17 19. "0100".pt. Journal 20. 18 and 19 21. limit 20 to yr="1994 - 2015"
CINAHL (EBSCOhost)	<p>S1. (MH "television+") OR television OR TV S2. (TI "medical") OR (AB "medical") S3. (MW "medical") S4. (MH "Professional Image") S5. (MH "Stereotyping")</p>

	<p>S6. (MH "Public Opinion")</p> <p>S7. (MH "Nursing Practice+")</p> <p>S8. storyline or prime time or primetime or E.R. or ER or hawthorne or scrubs or house or mercy or Jackie or popular or drama or dramas or entertain* or fiction* or series or shows or portray*</p> <p>S9. S2 or S3 or S4 or S5 or S6 or S7 or S8</p> <p>S10. S1 and S9</p> <p>S11. grey's anatomy or chicago hope or nurse Jackie or entertainment educat*</p> <p>S12. (TI "Hospital drama") or (TI "Hospital dramas") or (AB "Hospital drama") or (AB Hospital dramas")</p> <p>S13. S10 or S11 or S12</p> <p>S14. (PT "journal article") not (PT "letter")</p> <p>S15. S13 and S14</p> <p>S16. Limiters - Published Date: 19940101-20151231</p>
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\$, use truncation; *, use truncation; Ab, abstract; exp, explode; Kw, search all fields; MeSH, previously assigned subject heading; Ti, title; Tw, search all fields

Appendix III: PRISMA checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	3-5
Objectives	4	Provide an explicit statement of questions being addressed with reference to PICOS.	5
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., web address), and, if available, provide registration information including registration number.	6, Appendix I
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	6-7
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	7-8
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Appendix II
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	8
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	8-9
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	9, Appendix I
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	9-10
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	8-9

Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	9
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	9-10
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	8-9
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	11, Figure 1
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	11-12, Table I
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome-level assessment (see item 12).	11, 14
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group; (b) effect estimates and CIs, ideally with a forest plot.	12-14, Table II, Table III (Forest plot N/A)
Synthesis of results	21	Present results of each meta-analysis done, including CIs and measures of consistency.	N/A
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	14
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	13-14, Table III
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policymakers).	15-18
Limitations	25	Discuss limitations at study- and outcome-level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	18-19
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	19-20
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	20

Note: Source: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. PLoS Med 2009;6(6): e1000097; doi:10.1371/journal.pmed1000097.

N/A, not applicable; PICOS, participants, interventions, comparisons, outcomes, and study design;
PRISMA, preferred reporting items for systematic reviews and meta-analyses