An Emerging Field in Religion and Reproductive Health

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Abstract Separate from scholarship in religion and medicine, a burgeoning field in religion and population health, includes religion and reproductive health. In a survey of existing literature, we analyzed data by religious affiliation, discipline, geography and date. We found 377 peer-reviewed articles; most were categorized as family planning (129), sexual behavior (81), domestic violence (39), pregnancy (46), HIV/AIDS (71), and STDs (61). Most research occurred in North America (188 articles), Africa (52), and Europe (47). Article frequency increased over time, from 3 articles in 1980 to 38 articles in 2008. While field growth is evident, there is still no cohesive “scholarship” in religion and reproductive health.

Keywords Religion · Reproductive health · Family planning · HIV/AIDS · Domestic violence

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Introduction

The study of religion and medicine is not new. In fact, researchers have been examining the role of religion in medicine for quite some time, and the field has continued to evolve. Prior to the 1990s, religion was often a de facto area of medical research: Researchers often obscured religious variables in the methods and results sections of their studies without overtly highlighting them as legitimate areas of health research (e.g., by including them in article titles or abstracts). (Miller and Thoresen 2003) However, more recently, religion has gained recognition as an important component of medical care. (Koenig 2001) Religious assets figure prominently among the methods that people call on when coping with life stress and illness. (Dein and Stygall 1997; Cole and Pargament 1999) (Koenig et al. 1997) (Pargament et al. 1998) (Canada et al. 2005; Nelson-Becker 2005; Canada et al. 2006; Choumanova et al. 2006) With great reliability, religious variables have been found to be significantly related to physical, (Miller 1992; Koenig 2000; Larson and Koenig 2000; McCullough et al. 2000; Powell et al. 2003; Franzini et al. 2005; Levin et al. 2005; Rippentrop et al. 2005; Bosworth 2006; Cotton et al. 2006; Underwood and Powell 2006; Dominguez 2008; Lueckcn et al. 2009) and mental health. (Larson and Koenig 2000; Rippentrop et al. 2005; Kamm-Steigelman et al. 2006) The literature consistently reports a significant correlation between religion and medicine, focused on individual health outcomes. As in Koenig's summary of the literature, he states that “religious beliefs and practices rooted within established religious traditions were found to be consistently associated with better health and predicted better health over time.” (Koenig 2001).

There is an emerging sister field in religion and public health. Contrasted with the medical literature, public health research focuses on the community. Several examples include public health education and health promotion in faith-based settings (Boario 1993; Ransdell 1995; Quinn and McNabb 2001; Krause 2002; Clay et al. 2005; Kennedy et al. 2005; Krause 2006; Samuel-Hodge et al. 2006; Beck et al. 2007; Sauaia et al. 2007; Husaini et al. 2008; Zahuranec et al. 2008), etiologic research including the role of race and ethnicity, religion, and social relationships in health and health-seeking behaviors (Triandis and Triandis 1960; Hay and Foster 1981; Russo and Dabul 1997; Van Ness et al. 2003; Nagel et al. 2005; Davidson et al. 2008), and faith groups providing healthcare and social support in low-resource environments (Vogel and Stephens 1989; Boario 1993; James 1999; Glecos 2003; Miller 2004; Adogame 2007). There is also recognition of the institutional and societal tensions that can exist between religion and health, particularly in issues related to HIV/AIDS (Aldridge et al. 1989; Smith et al. 2005; Agadjanian and Sen 2007; Otolok-Tanga et al. 2007; Collins et al. 2008, 2009), reproduction, and family planning (Diamond 1988; Runkel 1998; Ali and Naidoo 1999; Garner 2000; Polis et al. 2005). While this field of research and practice builds on much of the existing focus on individual treatment, it also incorporates components of population health that are truly unique. Religion and reproductive health is a burgeoning subfield within this scholarship, encompassing both synergies and tensions between the two disciplines. We define reproductive health broadly to include family planning, contraceptives, reproductive technology, genetic counseling, HIV/AIDS, and domestic violence counseling and services.

While organized religion and reproductive health may not be obvious partners, both are seeking to improve the holistic well-being of the people they serve, and both have an intrinsic focus on the family. From a health perspective, reproductive health is typically discussed with regards to birth and maternal/child health outcomes. Whether public health
researchers focus on increasing interconception care (D’Angelo et al. 2007; Badura et al. 2008; Chatterjee et al. 2008; Simon and Handler 2008; Wise 2008), the role of race and ethnicity in birth outcomes (Adebisi and Strayhorn 2005; Aliyu et al. 2005; Reagan and Salsberry 2005; Shiao et al. 2005; Canfield et al. 2006; Nicholson 2006; Stotland et al. 2006; van den Oord 2006; Keeton and Hayward 2007; Palomar 2007; Dominguez 2008; Ma 2008; Nanyonjo et al. 2008; Simhan 2008; Sims et al. 2008), social support systems for low-income or low-resource families (Norbeck and Anderson 1989; McKee et al. 2001; Harley and Eskenazi 2006; Laraia et al. 2006; Lifflander et al. 2007; Walker and Sterling 2007; Collins et al. 2008; Simon and Handler 2008), or a variety of other topics, their focus tends to be on improving clinical health outcomes for mother and child. In contrast, the religious interest in family growth dynamics may be more focused on holistic growth of healthy families, although the precise roles of religious organizations in this area have not yet been determined.

It would appear that organized religions have a two-pronged impact on reproductive health issues. First, literature suggests that an individual’s religious affiliation may influence timing of marriage, beliefs about sex outside of marriage, childbirth outside of marriage, and desired family size (Miller 1992; Mosher et al. 1992). Religious teachings and spirituality may also influence a person’s or couple’s decision-making about contraceptives, choices about when and how to have a family, and a myriad of other health decisions faced on a daily basis (Ryan and Dunn 1988; Lifflander et al. 2007; Hirsch 2008; Srikanthan and Reid 2008; Gaydos et al. 2009). Second, at the community level, faith institutions (churches, synagogues, mosques, temples) have the potential to influence community norms—whether from the pulpit, or in spoken values shared through adult education classes, or unspoken values shared among a religious community. Religious institutions may also directly influence reproductive health through service provision, as in the case of hospital ownership, explicit rules about provision of reproductive health care services, political action aimed at reproductive health care services, and framing public policies in line with moral teachings. Faith intuitions are instrumental, intentionally or not, in the establishment of community mores (Young 1979; Galanter et al. 1980; Runkel 1998; Adamczyk 2008; Srikanthan and Reid 2008).

Faith communities are often the only place where intergenerational groups of community members meet on a regular basis (Simmons 1991), where there is discourse on a variety of issues of importance to the community and where many community members come for support. Therefore, these faith homes become instrumental in establishing a center of strength for the community. Not surprisingly, when health issues and concerns arise, many people of faith look to their religious communities for answers. Pressing reproductive health issues of HIV/AIDS, unintended pregnancy, domestic violence, and newly emerging issues of genetics and genomics are no different in that people still seek answers. However, these issues often pose greater difficulty for religious and faith leaders and institutions who want to help those they serve, but either do not have the tools do so (Martin 1989; Smith et al. 2005) or find conflicting teachings in the religion they know and the health promotion they may seek. (Runkel 1998; Otolok-Tanga et al. 2007).

As these impacts, both synergistic and antagonistic, across religious and health fields are becoming better recognized in reproductive health issues, a subfield of academic research is also beginning to evolve. This article is a first step in documenting the existing literature in the field of religion and reproductive health and in beginning to define a field of religion and reproductive health so that researchers, academics, and practitioners can have a foundation on which this subfield may grow and continue to evolve.
Methods

We conducted searches of the National Library of Medicine’s Medline database (PubMed) for MeSH major terms and Web of Science (including the Psychlit and Soc Abstracts), related to religion and reproductive health, for articles published between 1980 and 2008. We searched for the terms “religion” and ten major categories of terms including abortion, acquired immunodeficiency syndrome (AIDS), assisted reproductive techniques, cloning/embryo/stem cell, contraception, domestic violence, pregnancy, reproductive health services, sexual behavior, sexually transmitted disease (STD). Table 1 details the MeSH subject heading terms captured in each of these major terms and the corresponding Web of Science search terms.

Upon collecting articles matching these key terms, we reviewed articles to ensure that they were studies published in peer-reviewed journals. While the quality of studies was not judged for the purposes of this review, we assume that publication in a peer-reviewed journal connotes a certain level of acceptable quality. Both quantitative and qualitative articles were included, as were case studies. We did not include opinion/editorial articles or literature reviews, unless they included an analysis component. All articles were reviewed by two researchers separately for determination of inclusion in the analysis. Inclusion required consensus of the research team.

Coding determinations for the articles were based on a series of decisions by the research team and required consensus of the two reviewers. Therefore, the subject area, religious affiliation and disciplinary affiliation were all determined based on researcher definitions. While subject area and religious affiliation were relatively straightforward, determination of primary discipline was complex. Primary discipline was determined through a sequential series in which we first tried to determine the discipline of the corresponding author; if this was unclear (for example, there was not a departmental affiliation listed or the department was interdisciplinary), we moved to the second stage to determine the discipline of the journal in which the article was published. If the journal was also multidisciplinary, we made a decision as a research team as to what field we thought the article best represented.

Results

We found a total of 377 articles meeting our requirements as studies or peer-reviewed articles on the topic(s) of religion and reproductive health, from a total of 353 unique first authors. More articles (129) fell into the topic of family planning, than any other topic. Sexual behavior was a close second with 81 articles. Other common topics, included domestic violence (n=39), pregnancy (n=46), HIV/AIDS (n=71), and STDs (n=61). Figure 1 depicts the breakdown of articles by reproductive health topic. Notably, the totals add to greater than 377 because many of the articles covered more than one of our topics of interest.

We were also interested in how the research segmented by religious affiliation, given that different organized religions may take very different approaches to reproductive health issues. The large majority (n=254) of articles were of Christian affiliation generally, followed by 108 articles primarily regarding Muslims, 31 articles focused on Judaism, and smaller numbers reflecting Buddhism, and Hinduism. As with the subject area above, the totals exceed 377 articles, although there were fewer articles that included more than one religious group than found when categorizing by topic.
<table>
<thead>
<tr>
<th>Major category</th>
<th>MeSH terms in Medline</th>
<th>Web of science terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abortion</td>
<td>Abortion, induced abortion, eugenics, pregnancy reduction, multifetal</td>
<td>Religion*abortion</td>
</tr>
<tr>
<td>AIDS*</td>
<td>Acquired immunodeficiency syndrome; HIV infections.</td>
<td>Religion*AIDS</td>
</tr>
<tr>
<td>Assisted</td>
<td>Assisted reproductive techniques; embryo transfer; fertilization in vitro; sperm injections; intracytoplasmic gamete; intrafallopian transfer; insemination artificial; heterologous insemination; artificial, homologous; oocyte donation; oocyte retrieval; ovulation induction; superovulation; posthumous conception; sperm retrieval; zygote intrafallopian transfer</td>
<td>Religion<em>assisted reproductive techniques; religion</em>embryo</td>
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<tr>
<td>reproductive</td>
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<tr>
<td>techniques</td>
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<tr>
<td>Cloning/embryo/</td>
<td>Cloning; embryo; organism; research embryo creation; adult stem cells; embryonic stem cells; embryonal carcinoma stem cells; fetal stem cells; fibroblasts; hematopoietic stem cells; lymphoid progenitor cells; myeloid progenitor cells; mesenchymal stem cells; multipotent stem cells; myoblasts; myoblasts; cardiac myoblasts; skeletal myoblasts; smooth muscle; neoplastic stem cells; embryonalcarcinoma stem cells; pluripotent stem cells; totipotent stem cells</td>
<td>Religion<em>embryo; religion</em>cloning; religion*stem cell</td>
</tr>
<tr>
<td>stem cell</td>
<td></td>
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</tr>
<tr>
<td>Contraception</td>
<td>Contraception; coitus interruptus; barrier; immunologic; contraception, postcoital; natural family planning methods; ovulation inhibition; sterilization; reproductive</td>
<td>Religion*contraception</td>
</tr>
<tr>
<td>Domestic</td>
<td>Domestic violence; child abuse; child abuse, sexual; munchausen syndrome by proxy; elder abuse; spouse abuse</td>
<td>Religion*domestic violence</td>
</tr>
<tr>
<td>violence</td>
<td></td>
<td></td>
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<tr>
<td>Pregnancy</td>
<td>Pregnancy; gravidity; labor, obstetric; cervical ripening; labor onset +trial of labor; uterine contraction; labor presentation; breech presentation; maternal age; pregnancy in adolescence; maternal-fetal exchange; parity; parturition; home childbirth; natural childbirth; term birth; placenta tion; pregnancy, high-risk; pregnancy maintenance; corpus luteum maintenance; pregnancy, multiple; quadruplets; quintuplets; superfetation; triplets; twins + pregnancy outcome; live birth; stillbirth; pregnancy rate; pregnancy trimesters; first pregnancy trimester; second, pregnancy trimester; third, pregnancy trimester; unplanned pregnancy; unwanted pregnancy; prenatal nutrition; prenatal physiology; pseudopregnancy</td>
<td>Religion*pregnancy</td>
</tr>
<tr>
<td>Reproductive</td>
<td>Reproductive health services; family planning services; maternal health services</td>
<td>Religion*reproductive health services</td>
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<tr>
<td>health services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual behavior*</td>
<td>Sexual behavior; coitus; coitus interruptus; courtship; extramarital relations; masturbation; prostitution; safe sex; sexual abstinence; sexual harassment; sexuality; bisexuality; heterosexuality; unsafe sex</td>
<td>Religion*sexual behavior</td>
</tr>
<tr>
<td>STD</td>
<td>Sexually transmitted diseases; bacterial; chancroid; chlamydia infections +gonorrhea; granuloma inguinale; syphilis; sexually transmitted infections; viral condylomata acuminata; herpes genitalis; HIV infections.</td>
<td>Religion<em>sexually transmitted disease; Religion</em>sexually transmitted infection</td>
</tr>
</tbody>
</table>

*Note: excluded homosexuality because not related to reproduction
Interestingly, research in religion and reproductive health spans a variety of academic disciplines (Fig. 2), ranging from psychology and psychiatry with the most publications ($n=95$) to sociology ($n=14$) and anthropology ($n=7$) with the fewest. However, it is notable that the humanities have begun to have more publications in later years. For example, six of the seven anthropology publications occurred after 2006. Although article authors may come from a given discipline and even publish within that area, few existing publications can be exclusively attributed to one academic or research field with no allusions to other areas of thought. For example, articles in nursing journals frequently reference behavioral health and psychological frameworks; multiple publications in topic-specific journals, such as AIDS Care and Family Planning Perspectives (now known as International Perspectives on Sexual and Reproductive Health) come from authors in multiple disciplines. This is likely a factor of the population focus of the field and the consequent association with public health, where such cross-disciplinary work is much more common.

We also examined study type and determined that 74.1% of the articles ($n=248$) included quantitative research. The majority (61.7%) of quantitative studies were cross-sectional ($n=153$) and included survey research or analysis of secondary data sets ($n=181$); other quantitative methodologies reported included cohort studies ($n=10$), chart reviews ($n=11$), case–control studies ($n=4$) and 1 randomized control trial. Ninety-six publications comprised qualitative research, including 40 interview studies, 28 case studies/case
reports, 8 ethnographies, and 7 focus groups; similar to the trend shown in academic discipline above, just over one-fourth (27%) of the qualitative articles were published during the first 20 years of the investigation (prior to 2000), indicating a strong growth in qualitative research over time.

To determine geographically where this burgeoning scholarship is occurring and how it compares to distribution of policies, disease burden and various other issues related to reproductive health, we examined publications by geographic region. We found more research occurring in North America \( (n=188) \) than any other region, followed by Africa \( (n=52) \), Europe \( (n=47) \), the Middle East \( (n=34) \) and much smaller numbers in South-central, Southeast Asia and Latin America. For this analysis, Turkey is included in the European region and China is included in Southeast Asia. Notably, among African manuscripts, only 13 had a first author who was African.

Perhaps the most important finding is that the frequency of articles increased substantially over the years, ranging from 3 articles in 1980 to 38 articles in 2008, demonstrating ongoing and considerable growth in this field of research, as shown in Fig. 3. Researchers are beginning to recognize and document opportunities for partnerships across religion and reproductive health. For example, in 2007, Otolok-Tanga et al. examined the actions of faith-based organizations and their influence on HIV/AIDS-related stigma in Uganda in 2007. (Otolok-Tanga et al. 2007) In 2008, Melton and Anderson noted the positive role of faith communities in offering safe spaces against domestic and child abuse. (Melton and Anderson 2008) These are just a few examples; there is a wide variety in the topics, methodologies, academic fields, and even locales of the research to date.

**Discussion**

Growth in this topic is evident. However, there is still very limited “scholarship” in the area of religion and reproductive health. In 2008, there were only a total of thirty-eight peer-reviewed research articles on the topic of religion and reproductive health. This indicates that while religion and reproductive health is growing as a field, there is still much unexplored territory. Notably, although the increasing publication trend is evident throughout the time-period of the study, there is a sizable increase beginning in 2003. To our knowledge, there was not a change in indexing protocols for the datasets or any other

![Fig. 3 Religion and reproductive health publications by year](image-url)
externality that might have resulted in this adjustment, but we recognize the possibility of an unobserved exogenous variable that may drive this trend.

As noted in the results, one area of evident growth is in qualitative research. Whereas only four qualitative articles were found in the 1980s, the use of interviews particularly, but also focus groups, observations and ethnography, have increased substantially over the last 25 years. In a complex and evolving field such as religion and reproductive health, this use of exploratory qualitative methods seems most appropriate. We would expect a continued growth of qualitative methods to permeate, if not begin to dominate, the field.

Interestingly, researchers in the field of religion and reproductive health seem very comfortable working across disciplines. As the religion and reproductive field of inquiry continues to develop, researchers and practitioners alike should consider partnerships that may not be immediately obvious across fields of public health, nursing, religion, theology, ethics, and other related fields. As is evident in the articles reviewed for this study, one of the great strengths of this emerging field is its interdisciplinary and multidisciplinary nature.

This study is not without limitations. We recognize that not all available literature will be captured by searches of the Medline and Web of Science databases; however, we believe that the great majority of existing literature is appropriately captured. Similarly, our research topics are not exhaustive, and it could be argued that other keywords and search terms would produce additional literature. We further recognize that there has been overall growth in scientific literature, which may drive some of the findings. Finally, the presentation of categorical literature in this analysis is based on subjective reviewer coding. Although we used a standardized process and required coder agreement, others may disagree with our groupings and interpretations of the articles. This is of particular concern with regard to disciplinary affiliation, and we recognize this potential weakness. That said, we believe that this review provides an important summary of a growing field.

Reproductive health focuses on communities which are necessarily complex, consisting of multiple individuals, leaders, social structures, mores, and other intricacies, many of which are tied into religious and faith structures. The value in establishing a field in religion and reproductive health is recognizing these complexities and working with them rather than fighting the tensions that often result between religion and health policy advocates around issues of sex and reproduction. However, these partnerships are not without challenges.

Future research should continue to use the existing interdisciplinary strengths, but also focus on finding common ground and building lexicon and frameworks comfortable to practitioners and researchers in both fields to strengthen bonds around issues that may be divisive. For quantitative analyses, existing resources, such as the National Survey for Family Growth (NSFG), Behavioral Risk Factor Surveillance System (BRFSS), and the AIDS Public Information Data Set (APIDS) are a few examples of the rich datasets that are publicly available. Augmentation of the data and analyses from these types of large datasets with qualitative analyses (interviews, focus groups, ethnographies) will help to build a better literature base in religion and reproductive health and help us to understand this complex field.

References:


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