Behavioral Pharmacy Research by Social and Administrative Science Faculty from 1989-1999

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This paper reviews and examines a select category of published abstracts pertaining to social and behavioral pharmacy created by Social and Administrative Science faculty members from 1989 through 1999. Through a search of the names of Social and Administrative Science faculty members in the 1999 AACP member Roster in International Pharmaceutical Abstracts and MEDLINE, 106 abstracts that fit the inclusion criteria were identified. Based upon categories and subcategories of "who" and "what" was studied, the authors classified each abstract. Independent judges reviewed each abstract to address inter-rater reliability. The findings showed that the majority of publications centered on such topics as attitudes, beliefs and perceptions of patients or pharmacists, as well as medication issues/problems in the elderly. There was little social or behavioral pharmacy intervention research conducted. Divisions of social and administrative sciences seem primed for more research in areas that concentrate on behavioral pharmaceutical care interventions.

INTRODUCTION
Throughout its history, the profession of pharmacy has constantly tried to embrace and develop a personality that truly encompasses its essence. To this end, the Social and Administrative Science (SAdS) Section of the American Association of Colleges of Pharmacy (AACP) is an academic area that embraces the social, behavioral, economic and administrative sciences. It is an applied science as opposed to a basic science. It appreciates and utilizes basic theories of psychology, sociology, anthropology, economics, epidemiology and statistics, as well as the legal and business sciences of management and marketing to further knowledge in the profession of pharmacy and related areas(1-7).

This paper presents and focuses on a select category of research within the broad scope of social and behavioral pharmacy research published by SAdS faculty members from 1989 through 1999. It surveys social and behavioral research associated with pharmacy academia, i.e., students, faculty, administration and preceptors. The paper does not include research associated with pharmacy practice, pharmacoeconomics, management, pharmaceutical care outcomes, innovative teaching methodologies, modes of instruction and intervention educational research.

The history of pharmacy has seen a health professional and business role as dual functions assigned to the pharmacist. This duality reflects the professional or clinical aspect of pharmacy practice and the nonprofessional administrative or business aspect of pharmacy. As noted by Manasse and Rucker there is and has always been both discord and synergy from this dualism(8). Because of this dualistic framework, pharmacy as a profession has had a need to understand the sum and substance of its identity. The SAdS Section of Teachers has been attentive to the societal and economic portion of the profession, which play an extremely important role in shaping the scope and character of professional contribution.

There are a variety of definitions that attempt to explain what is studied in SAdS. Smith and Knapp(9) defined pharmacy administration as the “socioeconomic determinants of drug use.” Manasse and Rucker gave perhaps the most definitive definition of SAdS when they wrote, “Pharmacy administration is a sub-discipline within the pharmaceutical sciences which centers on the study of and education in the applied social, behavioral, administrative and legal sciences which bear upon the nature and impact of pharmacy practice regardless of the environment in which professional services are furnished.”(8) Sorofman prefaced his definition of SAdS by what it is not, “…not pharmacoeconomics, not medicinal chemistry, not pharmacology, and not clinical, SAdS addresses the system of pharmacy in society, including pharmacy education, human behavior, social interactions, and the consumption of drugs.”(10)

The SAdS section comprises a variety of scholars from a wide range of disciplines. Some colleges and schools of pharmacy offer both Master of Science and PhD degrees in Social and Administrative Sciences. Some faculty members in SAdS departments have advanced degrees in areas other than SAdS such as medical sociology and psychology(11). This variety makes SAdS a unique cog in the pharmaceutical sciences. In an effort to understand the contributions that SAdS faculty have made to social and behavioral pharmacy research, the authors were charged with reviewing past published literature in this field in order to identify and analyze the patterns and trends of research topics. Two points guided our agenda: (i) to critically examine and categorize ten years worth of social and behavioral pharmacy research; (ii) to make recommendations for future research based on our findings.

Am. J. Pharm. Educ., 65, 164-168(2001); received 1/24/00; accepted 1/17/01.
METHODOLOGY

Empirically based publications—not review articles or opinion pieces—published in refereed/peer reviewed journals were used for the study. Faculty members listed under SAdS Departments in the 1999 Member Directory of AACP, yielded 405 names. To locate primary, peer-reviewed, published research conducted by the selected members, databases of the International Pharmaceutical Abstracts (IPA), and MEDLINE and selected abstracts that met the inclusion criteria, i.e., social and/or behavioral, not practice, economics, business or management were searched.

IPA is a database that includes clinical as well as technical drug information, pharmacy practice, legal, social and behavioral aspects of pharmacy and drugs. Produced by the American Society of Health-System Pharmacists, it scans over 750 journals published worldwide. MEDLINE indexes the National Library of Medicine’s bibliographic database and includes such topics as microbiology, delivery of health care, nutrition, pharmacology, and environmental health.

Each study was categorized according to two criteria: who was studied and what was studied. The “who” category included and was classified as: (i) clients; (ii) pharmacist practitioners; (iii) other health professionals; and (iv) academia (Figure 1). Each section was further differentiated. For example, “clients” were labeled as patients, consumers, family members, community, and/or society. The “what” category identified knowledge, cognitive representations, attitudes, beliefs, values, decisions, communication skills, media influences, race, gender, and age. Each abstract was categorized and underwent an independent review by three separate reviewers (i.e., authors) in order to address inter-rater reliability. The average percent agreement between pairs of raters was 100 percent for the “who” category and 77 percent for the “what” category. Searching by author name in IPA, 106 publications met the inclusion criteria. All abstracts were content analyzed and categorized.

RESULTS

Within the “who” category, out of the 106 abstracts collected, over half focused on practitioners and about one-fourth centered on clients (patients or consumers). The remainder fell into “other health care practitioners” and “academia” categories. Within the client category, the elderly accounted for about 20 percent of the publications; some centering on the issues or problems associated with medication adherence, others concentrating on the risks of drug misadventures of this group(12-16). The next major subcategory was devoted to patient/client perceptions about and toward pharmacists and pharmaceutical care (17-23). Client attitudes toward the pharmacist and pharmaceutical care, patient medication compliance and patient–pharmacist communication completed the majority of abstracts in the client category as indicated in Table I(24-34).

Almost one-half of the practitioner abstracts reviewed were about pharmacist practitioners. The most published topic pertaining to practitioners was the sub-category of pharmacists generalized feelings and attitudes(35-46). This sub-category examined such topics as pharmacists attitudes towards the profession, the expanded role of patient counseling, pharmacists beliefs in their own ability to carry out new professional roles, and their attitudes towards product specific television advertising. The next largest subcategory encompassed career roles, job satisfaction and burnout in the profession of pharmacy(47-56).

Table I. Generalized categorization criteria (N = 106)

<table>
<thead>
<tr>
<th>Who</th>
<th>Characteristics</th>
<th>What</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clients</td>
<td>Characteristics</td>
<td>Behaviors</td>
</tr>
<tr>
<td>Patients</td>
<td>Race</td>
<td>Knowledge</td>
</tr>
<tr>
<td>Consumers</td>
<td>Gender</td>
<td>Cognitive Representations</td>
</tr>
<tr>
<td>Family</td>
<td>Age</td>
<td>Feelings/Attitudes</td>
</tr>
<tr>
<td>Community</td>
<td>Nationality</td>
<td>Beliefs</td>
</tr>
<tr>
<td>Society</td>
<td>Socioeconomic status</td>
<td>Values</td>
</tr>
<tr>
<td>Practitioners</td>
<td>Occupation</td>
<td>Decisions</td>
</tr>
<tr>
<td>RPh</td>
<td>Health condition</td>
<td>Communications</td>
</tr>
<tr>
<td>PharmD</td>
<td>Religion</td>
<td>Skills</td>
</tr>
<tr>
<td>Other health care</td>
<td></td>
<td>Media</td>
</tr>
<tr>
<td>Physicians</td>
<td>Sexual preference</td>
<td>Audiences</td>
</tr>
<tr>
<td>Practitioners</td>
<td>Group membership</td>
<td>Actions</td>
</tr>
<tr>
<td>Nurse practitioners</td>
<td>Educational background</td>
<td></td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Political orientation</td>
<td></td>
</tr>
<tr>
<td>Nurses</td>
<td></td>
<td>Outcomes</td>
</tr>
<tr>
<td>Academic</td>
<td></td>
<td></td>
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<tr>
<td>Faculty</td>
<td></td>
<td></td>
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<tr>
<td>Students</td>
<td></td>
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</tbody>
</table>
Table II. What was studied about clients/patients (N = 106)

<table>
<thead>
<tr>
<th>Topic studied</th>
<th>Percent of abstracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elderly and medications</td>
<td>36</td>
</tr>
<tr>
<td>Patient perceptions</td>
<td>29</td>
</tr>
<tr>
<td>Client/patient attitudes</td>
<td>21</td>
</tr>
<tr>
<td>towards pharmacists</td>
<td></td>
</tr>
<tr>
<td>Medication compliance</td>
<td>4</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>10</td>
</tr>
</tbody>
</table>

Table III. What was studied about Pharmacists (N = 106)

<table>
<thead>
<tr>
<th>Subcategory</th>
<th>Percent of abstracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feelings, Attitudes, Beliefs about the Profession</td>
<td>30</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>22</td>
</tr>
<tr>
<td>Pharmacist Self-Perceptions</td>
<td>11</td>
</tr>
<tr>
<td>Morals and Ethics In Pharmacy</td>
<td>9</td>
</tr>
<tr>
<td>Miscellaneous- nonprescription advise; health-related advise</td>
<td>28</td>
</tr>
</tbody>
</table>

Pharmacists’ perceptions about themselves, their careers, and their expanded professional roles made up a small percentage of the publications in the practitioner category, as did pharmacists’ beliefs/attitudes about morals and ethics within the profession(57-61). In addition, a number of abstracts dealt with the non-dispensing functions of pharmacists, such as advice on over-the-counter medications and other health-related issues as indicated in Table II(62-72).

The next category studied was academia. Within this population, the majority of publications dealt with the concerns of students, such as, students’ rates of success or failure in pharmacy school, attitudes and behaviors regarding alcohol and drug use, as well as non-traditional educational learning methods in colleges and schools of pharmacy. In addition, there were publications addressing faculty attitudes and beliefs regarding such issues as alcohol and drug use among faculty and students(73-101).

Other health care professionals rounded out the category of “who” was studied. Few publications were found in this area. The number of articles in this category accounted for only three percent of the total number of abstracts (102-106).

DISCUSSION

It can be concluded that the vast majority of publications in social and behavioral pharmacy authored by SAdS faculty, published from 1989-1999, and abstracted in IPA and MEDLINE have centered on attitudes, beliefs and perceptions of patients and pharmacists. Not surprisingly, a significant portion of the client research concentrated on the elderly population. The elderly have very specific concerns or problems when it comes to the provision of pharmaceutical care. It will be interesting to see if any social and/or behavioral pharmacy research develops within the next decade as to the effectiveness of pharmaceutical care interventions in the elderly population. In terms of pharmacy practitioners, it was both interesting and discouraging to find the high rates of job dissatisfaction in the profession. The authors believe that it would be of value to continue formulating interventions in order to decrease job dissatisfaction in the profession.

As mentioned earlier, the publications in the field of academia were mostly descriptions of student issues. It would be of interest if new research were initiated describing the type of person who is interested in pursuing pharmacy as a career. In addition, it would be exciting to see more research describing demographic, educational, research and personal interest profiles of pharmacy faculty, particularly (but not limited to) within the SAdS departments of colleges of pharmacy.

STUDY LIMITATIONS

As comprehensive as we attempted to be, we may have missed some SAdS faculty not listed in the 1999 AACP Member Roster. In addition, our search included only publications listed in IPA and MEDLINE. Moreover, some may disagree as to whether a publication abstract is sufficient to categorize the studies in the format that was followed. Further research using a more comprehensive strategy could add to the findings in this study. The request to assess social and/or behavioral research created by SAdS faculty excluding practice produced an unfortunate dichotomization in that we ignored research on what probably is our greatest contribution to the profession of pharmacy, that is, pharmacy practice including behavioral aspects of care plans and outcomes research.

References

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