

THE SOCIOLOGICAL ROLE OF AN
INFERTILITY CENTRE IN PROMOTING
PRE-TREATMENT CONCEPTION

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ABSTRACT

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A study is made of the Royal Victoria Hospital Infertility Clinic to show the non-medical aspects of their pre-treatment conception rate. Two social factors, "effective communication" and "positive doctor-patient relationships" are identified and postulated as affecting the success rate at the Clinic. The treatment of infertility, in both medical and social settings is discussed. The design of the experiment is outlined. Findings reveal a pre-treatment success rate at least (3) three times higher than the control group or comparative data. Implications of these findings are discussed as well as hypotheses amenable to future testing. The conclusion is drawn that "effective communication" and "positive doctor-patient relationships" may effect the high pre-treatment conception rate found at the Clinic.

DEDICATION

To Dr. George H. Arronet
without whose generous and selfless help, encouragement
and support this paper could not have been written.

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INTRODUCTION

INTRODUCTION

This study underlines the possible influence of social factors in purely medical situations. Studies in medical sociology have often argued for the role of social factors when examining aspects of diagnosis, treatment and cure of disease.

Although infertility is an individual problem (i.e. not a problem of social groups), the solution may be affected by a group situation such as the infertility clinic. The literature on infertility as treated by infertility clinics, reveals many accounts of "successes" or pregnancies occurring at clinics, for which no medical explanation could be found.

The specific data that piques our curiosity is presented in its original form:

- 1) Stone and Ward (1956) - 32.2% pregnant of 500 cases within 3 months
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"As part of our program, each couple is asked to attend an orientation lecture at which a physician explains to the patient the anatomic and physiologic factors in fertility, the various conditions that may lead to infertility and the tests which may be required to determine the cause in individual cases. We feel strongly that better acceptance of the situation by the couple, the realization that their particular problem is not unique, the relaxation which followed the transference of their burden to people presumably skilled in coping with such situations, and the release of fear, and tension, were of prime importance in leading to successful results. For the present, at least, we can explain these conceptions on no other basis."

- 2) Southam and Buxton (1957) - 25% of 1,437 cases within 3 months
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"Twenty-five percent (of pregnancies) occurred within 3 months of first interview regardless of duration of sterility. This high rate of pregnancy unrelated to treatment must be taken into consideration when evaluating results for treatment for sterility."

- 3) Rocker (1965) - 24.4% of 495 cases within 3 months
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"It must be recalled that by definition, the period of follow-up commenced from the date of first attendance at the Infertility Clinic... One quarter of the estimated rate is 12 and is therefore the figure for comparison with the achieved birth figure of 42... It would appear that attendance at the clinic resulted in marked shortening of the time to conception. In fact, during the 3 month period under consideration, a rate occurred four times what could be expected."

- 4) Arronet (1969) - 22% of 484 cases within 3 months
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"The distribution of 'times to conception' shown can be explained by the assumption that the patients who conceived within six months did so as a result of investigation, while those conceiving within the 9-12 month period did so as a result of more radical treatment that required more time to initiate and more time to become effective... That treatment is effective in some of infertility is not in doubt, and all can remember spectacular occasions when patients are successful immediately after medical intervention. However, it must be the belief of those interested in the clinical management of infertility that other patients conceive as an indirect result of investigation and that the relatively large number of cases who conceived after investigation, but without treatment, had been benefitted.... The nonspecific benefits of investigation and instruction are more difficult to assess."

These studies represent over 2,000 cases. These unexplained cases of conception were mentioned but never adequately examined. All patients had attended the basic investigation of their infertility centre, had been trying to conceive for at least 12 months, and as a group, had an abnormally high success rate. The success rate was due to neither surgical or pharmacological intervention. These studies suggest an abnormally high conception rate before actual medical treatment. This then suggests that non-medical factors may be involved. We will conduct an experiment to determine if this abnormally high conception rate exists at the Royal Victoria Hospital Infertility Centre.¹ On the

¹ The Royal Victoria Hospital is a teaching Hospital of McGill University, Montreal, Quebec, Canada

basis of the result, we will speculate on the non-medical factors which might be responsible for such a high pregnancy rate.

We propose that the Clinic supplies an atmosphere of effective communication between its patients and its doctors, and the doctor-patient relationship formed at the Clinic may be positive and reinforcing. We will define and analyse the role of the doctor-patient relationship in other medical settings. We will examine the results of the communication system within other medical frameworks. Analysis of infertility as both a medical and social phenomenon will follow. One hundred cases of infertility taken from Clinic files will be matched for specified demographic variables with a control group of one hundred women. Should an abnormally high pregnancy rate before treatment occur, we will discuss the possible influence of the hypothesized factors. We will conclude by offering speculations on additional non-medical influences in promoting pregnancy: It is beyond the scope of this study to actually test the effect of these two factors at the Clinic or to prove that they exist exclusively at the Clinic.

The Clinic may provide an effective communication system and a positive doctor-patient relationship system, both providing the "normal" infertile couple with an atmosphere most conducive to encouraging conception. These systems may not be provided to the couple under any other social setting. Therefore the Clinic may play a valuable role in inducing conception even though this role may be non-medical.

The Clinic will serve as an example of the role of non-medical (sociological) variables in a medical situation. The Clinic is a focal point about which other social processes are set into motion. The

processes are not unique to infertility as a medical area. All institutions, medical and otherwise, are founded upon and operate through a network of interpersonal relations. It is to be expected, then, that social factors will affect their participants, regardless of specific contents. to that extent, this study is directly relevant to the study of a broad range of client-centered institutions.

6.

LITERATURE REVIEW

LITERATURE REVIEW

A review of the literature on the non-medical aspects of medical care reveals two recurring themes. First, doctor-patient relationships have a direct effect on the quality and quantity of medical care given to patients. Second, the care is unequally received, depending on effectiveness of the communication network.

The first section in this chapter deals with the doctor-patient relationship as a specialized, specific example of role behavior. To introduce the relevance of the doctor-patient relationship at the Clinic, we will first examine this relationship in other medical/social settings. We assume a structural-functionalist approach to this social interaction. People assuming the role of doctor interact significantly and consistently with people assuming the role of patient within the social setting of the Clinic. Other studies done of this relationship provide possible parameters of the specific relationship at the Clinic.

Our second section in the Literature Review deals with the role of effective communication within a medical context. The role of communication has always been of interest to sociologists since it is so critical to the comprehension of social relationships.

Communication takes several forms: verbal or non-verbal, formal or informal, constant or intermittent, effective or non-effective, etc.

The success or failure of a communication system will reveal much about

its participants. Both an effective and an ineffective communication network within medical/social settings are examined. A greater understanding of the possible effects of a communication system on the patient will hopefully result.

"Effective communication" and "positive doctor-patient relationship" are two concepts frequently used in the literature related to medical sociology. They each refer to descriptions of interaction within medicine. They are concepts which may describe different parts of an interaction; or may describe the same interaction differently. The concepts are not mutually exclusive and each may, (and usually do), exist as a sub-section of the other. A further and more complete description of each concept can be found at the end of each section of the Literature Review.

Doctor-Patient Relationship

A review of the literature shows the necessity of examining many incongruous aspects of the complex doctor-patient relationship when analysing a clinic's non-medical influence on its success rate. The role model of the doctor and its possible effect on the quality of medical care offered to the patient is examined in the first section. A variety of views on the doctor-patient relationship are covered. Whatever the opposing views on its influence, the literature shows that it should be at least considered in any study of a clinic. The length of time in practice, clinical preference, personality of the doctor, attitudes of doctors to patients, have all been shown to have influenced resultant patient care in other medical studies. Each aspect with its particular impact on the doctor-patient relationship at the Clinic has to be examined.

Proposed therapeutic aspects of a doctor-patient relationship are then reviewed. Other studies examine the doctor's "power" over his patients and the delicate role his "motivation" can play in the recovery of his patient. The role of a doctor as an intimate link to the patient's decision to seek medical care is shown in many studies. Special and specific qualities of this relationship are examined, and the general conclusion is drawn that the doctor-patient relationship may reveal as much about "success" rates in certain diseases, as any other single medical factor. Although doctor-patient relationships may occasionally create problems as well as solve them, the literature seems overwhelmingly in favour of the positive effects of the relationship. Our literature review acknowledges the problems involved in measuring any doctor-patient relationship. The small number of studies which specifically implicate the role of the doctor-patient relationship in infertility are then discussed.

Physicians Role Model

Certain norms concerning the roles of the physician and the patient have been described by sociologists (Reader, Pratt and Mudd, 1957). The physician is expected to treat all patients according to scientific and medical standards regardless of personal feelings toward the patient. He is expected to be an expert in all aspects of health and disease, whether directly related to his particular field or not. He is supposed to remain emotionally detached from his patient, and at the same time place his patient's welfare above his own concerns. The patient is expected to cooperate with the physician to get well. The physician becomes an agent of social control, validating the complaints of the patient (Parsons, 1951). This basic model of the relationship has been elaborated and discussed by medical sociologists since the 1950's.

Unfortunately little empirical research has appeared to validate the degree to which physicians and patients actually adhere to these norms either in their attitudes or behavior. Observations of patients and physicians have suggested that the physician is caught in the dilemma of showing concern for the patient while maintaining enough emotional detachment for proper treatment (Fox, 1959). Emotional overinvolvement with a patient may result in impairment of the physician's ability to make decisions and the neglect of his other patients. Detachment may result in the physician's failure to listen to the patient and adequately communicate information essential to the patient's health.

Specific Views of the Doctor-Patient Relationship

Hollingshead & Redlich's (1953) study of a New England suburban population was one of the first studies to examine the effects of the doctor-patient relationship. With respect to mental illness they found that willingness to attend a psychiatrist was related to social class. The lower the social class, the less willing was the group as a whole to seek psychiatric advice. The highest social class groups also tended to regard the psychiatrist as socially equal or inferior to themselves. Lower social class people preferred the psychiatrist to play a more authoritarian role in relation to them. Davis (1968) added that increasing amounts of geographical mobility may also play a role in the changing doctor-patient relationship. Most studies investigating the nature of this relationship, have, unfortunately, been restricted to circumstances where the patients have been psychiatrically ill (Hinkle, 1964). Lasagna (1969), in his analysis of the placebo effect of such factors as age, education, attitude to doctors, etc., found these factors were all at times demonstrably measurable and significant.

Lowinger (1968), demonstrated a relationship between such characteristics as patient's diagnosis, age, sex, marital status, class, race and religion and qualities such as "patient/therapist similarity", "patient aggression" as described by the doctor. Such factors were found to influence the frequency of follow-up. Carkheiff (1967) using a latin square design, found both social class and race to be significant factors influencing the extent of exploration in early interviews which was subsequently highly correlated with measures of constructive patient change. Pennington (1972) has demonstrated that the length of time in practice was related to professional orientation and in turn to amounts of time spent with each patient. Walton and Hope (1967) found that the doctor-patient relationship was not influenced by the physical environment of the consultation, although other attitudes were.

Some work has been concerned with examination of the personality of doctors. There is vast literature on how doctors see themselves professionally, and what they consider to be desirable. Wilmer (1968) has demonstrated that different patients elicit different responses from the same doctor in terms of his being directive and this has been discussed clinically in depth by Balint (1967). Truax et al (1966) have identified three main factors of "accurate empathy", "non-possessive warmth" and "genuineness" as important in relation to the outcome of psychotherapy. These are factors reminiscent of Branch's (1969) concept of "detached concern". Boh (1967) has emphasized the importance for good outcome of "similar value systems" between patient and doctor, embodying the factors of "mutual attraction" and "influence". In 1958 Kudashin reported on a study concerned with examining the relationship of patient's reported outcomes of treatments and their

measured attitudes towards doctors. A reliable measure of such attitudes was formed and a close relationship between favorable attitudes expressed towards doctors and favorable outcome of drug treatment was found.

The "doctor-patient" relationship has been shown to have a generally strong effect on the outcome of patient care. In this section many factors are discussed that may influence the doctor's contribution to the "doctor-patient" relationship.

Therapeutic Aspects of the Doctor-Patient Relationships

The nature of the doctor-patient relationship appears to be a complex function of cultural, social and personality factors. Menke (1968) has recently restated the view that professional status is based upon specific medical skills and that within this context alone the physician is granted unique power and prestige. This formal medical view proposes that, in return, the public demands exemplary behavior and expects to see clear indications of the wisdom of its choice. The doctor-patient relationship has always contained potentially powerful forces over and above those dictated by the doctor's special medical skills and actual professional standards. Within the highly socialised medical system of the USSR, emphasis has recently been placed on the therapeutic importance of unhampered personal contact between the doctor and the individual patient (Ziferstein, 1966).

Concurrently the social parameters of disease are being mapped out more clearly than ever before and the doctor finds himself confronted with information which no longer fits his role-image. On the one hand the doctor is told that the bulk of formal disease still exists in a general population who do not attend, and may actively avoid doctors

(Mechanic, 1961). At the same time the doctor is becoming aware of a psychobiological adaptational approach. Psychic and behavioral responses become related in shaping all aspects of body behavior within broad genetic limits. This model brings with it the optimistic proposition that disease processes may become modifiable or preventable, if the individual's total adaptation and pattern of relationships in life can be appropriately modified (Aldous, 1964).

Another area in which the doctor is inescapably involved is with death. If his fight against it sometimes has more personal roots than he recognises, influencing his ability to help the dying at a personal level, (Balint, 1967), at least it epitomises his involvement with the individual. The medical profession seems to agree that qualities such as integrity (Howie, 1969), absence of undue paternalism (Branch, 1969), sympathy (Wilmer, 1968), interest in the patient (Wilson, 1961), frankness, kindness, and pity (Steiger, 1969), are important. Doctors are traditionally directive in their manner and Balint (1967) has emphasized the unnecessary difficulties that this provokes in attempting to practice both illness-oriented medicine and patient-oriented medicine with different patients in the same practice.

Pratt (1956) has recently referred to the three sociologically derived aspects of such authority. He outlines the "structural" hiring and firing aspects, the "sapiential" aspects based on expert knowledge and the "charismatic" aspects derived from some external power or concept. To the extent that we cannot mobilise or harness such forces for rational therapeutic goals, then such status is indefensible. To the extent that it can be understood, it is likely to teach us as much at present about disease as any other immediate advance in medicine.

The insight by Freud into the concepts of "transference" and "counter-transference" have been considered by some authors to have relevance in the doctor-patient relationship. Freud's view was that the traditional professional skills, role and virtues of the doctor could lead to his becoming an intense focus for the patient, with attitudes derived and transferred from earlier, usually infantile and parental sources. This view was given further significance with the proposition that disease, having a basis in these same earlier interpersonal circumstances, would now become uniquely sensitive to the doctor-patient relationship (Winkle, 1964). The concept of "transference" appears reasonable and plausible to many people. Others adopt a more skeptical approach (Lemert, 1951).

Problems in a Doctor/Patient Relationship

At least one factor in the outcome of a continuous relationship with a physician is presumably the improved quality and understanding in messages communicated. One should not oversimplify this explanation, however. Undoubtedly free, open and mutually rewarding communication influences the patient's and physician's behavior, but the behavior of patients and physicians is generated by many factors. A continuous relationship may be mutually rewarding, but not always so. "Irritation" on the part of the physician and "shame of failure" on the part of the patients are but two problems considered by sociologists. Thus the advantages of a continuous relationship between patient and physician should be viewed as net gains, and not as a utopian state in which each is completely satisfied.

The Infertility Centre & The Doctor-Patient Relationship

Kaufman (1955) argues that emotional tension is not the cause of infertility in most cases, but the result of frustration. He feels that many cases of "psychogenic" infertility have not withstood the close scrutiny of refined diagnostic techniques such as immunologic studies and culdoscopy. He admits that there are instances in which releases of tension alone may result in pregnancy, as in those couples who conceive shortly after their first visit to the doctor. He suggests that in most infertility cases, it would be well for the doctor to reassure anxious, self-blaming wives that emotional tension may well be the result of infertility, not the cause of it. This attitude alone seems to help to decrease tension. It seems important for the infertile couple to appreciate fully the delicate dynamics involved. Such couples put their full trust in the doctor who tries to dissolve inhibitory forces.

Thirty-five per cent of women coming for treatment of psychogenic infertility may become pregnant during the course of investigation of therapy (Bayer, 1954). These procedures are of course therapeutic in various ways, not the least of which is the relationship established with the physician. Actually the general physician is a better psychotherapist than he knows, particularly if he can establish a tender, understanding and trusting attitude (Behrman, 1975). Such beneficial patient-physician relationships have been described in the more esoteric language of psychiatry, in terms of the dynamics of transference. One may say that the trust in the interested and understanding physician represents a dynamic transaction which may lead to a breakdown in the inhibitory forces (Carr, 1963). These are presumably the forces giving rise to impulses preventing ovulation or exciting deleterious influences along the autonomic nervous system (Horne, 1957).

Conclusions

The literature has shown that a positive doctor-patient relationship will result in improved patient compliance, improved patient comprehension, and generally improved chances for patient satisfaction and possible medical improvement. (Zola, 1962; Weisman, 1950; Wilmer, 1968; Vorhaus, 1957; Titcher, 1966; Swackhamer, 1929; Thurston, 1939; Steiger, 1959; Plaja, 1968; Parsons, 1951; Levine, 1962; Stoeckle, 1963; Saunders, 1954; Rome, 1955; Reader, 1957; Robinson, 1939; Lasagna, 1969; Kimmich, 1954; Kalimo, 1969; Henderson, 1935; Henkle, 1968; Hinta, 1967; Filliam, 1961; Goss, 1961; Greenlick, 1978; Fisher, 1953; fox, 1959; Freidson, 1960; Egbert, 1964; Elkinton, 1967; Davis, 1969; Clausen, 1955, Blum, 1960; Branch, 1969). The quoted studies range from 1929 to 1978 and cover articles from eight journals and twenty four major works. All studies done in medical settings include some reference to the critical position of the physician-patient relationship. Although studies may vary in their approach to, and measurement of, the relationship, some recurrent themes provide us with a plausible model of an ideal positive doctor-patient relationship. According to the literature a positive doctor-patient relationship requires a balance between emotional overinvolvement and detachment on the part of both physician and client. Continuity of the relationship unhampered by possible geographical mobility of either doctor or patient seems necessary. Lack of discrimination on the part of the doctors to patients with varying economic or educational background is ideal. Different patients should elicit similar responses in comparable medical situations. It is optimal for doctors to try to obtain the most favorable attitude possible from all patients. The studies emphasize

the importance of unhampered personal contact between doctor and patient. A positive relationship will occur most often when both doctor and patient believe that disease is modifiable. Several studies of death show the personal level of doctor involvement directly affecting patient's attitude and coping mechanisms. Attitudes of sympathy, integrity, interest in the patient, frankness, kindness and pity are difficult to measure, but form an important base for a positive relationship between physician and client. In a positive relationship, the doctor harnesses the structural, sapiential and charasmatic aspects of his authority to create an atmosphere conducive to patient trust. Transference is used to channel available patient emotion. The possibility of "irritation" should be acknowledged and avoided by physicians and "shame" of failure should be discouraged on the part of the patient. The doctor tries to represent to the patient, a breakdown of possible inhibitory factors which may lead to the patient's inability to comply with medical advice.

The doctor-patient relationship represents complex, changing interaction between two sets of actors in socially defined and prescribed confrontations. Studies view the doctor-patient relationship as a special case of social relationships governed by sets of explicit norms concerning the behavior of both parties. The analyses tend to focus on how the specific attributes of the roles of doctor and patient complement each other and contribute to the functioning of the relationship. Implicit in this analysis is the assumption that both doctor and patient know, and understand, what behavior is expected of both himself and the other. The greater the understanding and resultant action, the more positive and mutually rewarding the relationship.

Although role attributed may be influenced by other factors such as kinship and subcultural groups for the patient, professional colleague and other reference groups for the physician and by generalized sociocultural values for both, a positive relationship is viewed as optimal and possible. This equilibrium model is appropriate for the analysis of our clinic relationships as the treatment is confined to one specific intense but brief period, and success may be related to a specific relationship.

Effective Communication

Literature on sociological studies in general, and medical settings in particular, seems to confirm the necessity for examining and evaluating the role of communication between patient and practitioner in any study of the influence of other than medical variables on the patient. The search for the ideal communication system in health care service is interpreted by many as the search for accurate, empathetic and effective communication which in turn has a direct positive effect on patient welfare (Newcomb, 1963). The role effective communication plays in other medical settings, is examined to gain insight into the communication system at the Clinic.

Communication and Effectiveness of Clinic Care

It has been shown that the efficiency and effectiveness of health care services will increase as personnel in these services enhance their communication skills (Antonovsky, 1972). Discussions of the interaction between worker and client have not always taken into account that the professional's relationship with a particular client is only one of the many such interactions the client is experiencing. The proposal has been put forth that health service consumers will receive better service

from teams of workers than from individual health professionals (Simpson, 1965). Iris (1964) suggests that the obvious advantage of increased experience, exposure, angles of diagnosis on the part of this "team" is ultimately beneficial to the patient. However, differences in attitudes, values, status perceptions and goals among doctors as well as within each doctor-patient relationship have not been considered.

Many factors seem to contribute to limited communication between clinic staff and patients. For example, physical facilities that do not provide privacy for a patient to talk to health workers deters communication (Quint, 1966). Christman (1965) has asserted that staff members of clinics are becoming keenly aware of difficulties in communication between themselves, and the effect these difficulties have on patient care. He maintains that these difficulties are of a structural nature - a term he uses to refer to the ways in which staff members interact. In his view, how haphazard or how well planned the doctors communications are, is a direct indication of projected communication effectiveness and the resulting quality of patient care. Doctor's failure to meet their patients' needs for information may indicate a tendency for physicians to underestimate their patients' medical backgrounds and abilities to understand. This hypothesis has been suggested and confirmed by studies in Britain and the United States (Cartwright, 1964; Kane and Deuschle, 1967). Others suggest that the physicians' uncertainty about diagnosis and treatment may contribute to the failure to inform patients to the extent the latter desire (Davis, 1960). Another explanation for some physicians' communication failures are that informing patients could lessen the physician authority in the doctor-patient relationship and could lead to patient's loss of "doctor mystique" which some felt contributed to doctor effectiveness.

The study by Kerr, Templeton and Parkesingh (1974) shows how necessary and critical efficient communication is. As a part of their analysis of the prerequisite skills required to achieve medical competence, they included a priority of skills in communication. Consequently, although not ignoring the need for training in techniques of physical examination, they emphasised experience in the skills of listening and talking about all types of reproductive problems. Blocks to effective communication may occur in an infertility centre, such as grief and distress, anger and aggression, garrulity and irrelevancies or withdrawal and silence on the part of the patient. Although concerned with justifying the need and use of patient simulators, they chose involuntary subfertility as an area that could benefit from eventual maximal doctor-patient communication.

Communication and Patient Compliance

Studies of individual compliance with medical recommendations have yielded varying results. One investigation has estimated that about 30-35% of patients default (Davis, 1966). Conclusive explanations for non-compliance vary, but lack of motivation, combined with a lack of effective communications seem to be the principal cause. Personal data from individuals who failed to keep scheduled appointments at clinics revealed that communication failure was the most frequent cause of not keeping appointments (Hofman and Rockart, 1969). Whatever the cause of this communication breakdown, the resulting patient non-compliance seemed to be an almost universal consequence (Cartwright, 1969). Kane (1967), while examining this phenomenon, suggests that many doctors are not consciously aware of this communication failure. He describes the ignored sociocultural pattern that in his study caused the recommended

health practices to conflict with crucial norms and values held by individuals in this particular subculture. The description of the doctors prescribing solutions and the patients apparently accepting advice they knew they could not follow, is a phenomenon described in much of the literature. Where authors describe health workers and clients who speak the same language, compliance seems inevitably related to communication (Newcomb, 1963). However, adding barriers of different language, dissimilar cultures and varying social class, compliance becomes even more directly related to effective communication (Hofman, 1969). In evaluating patient compliance as a possible link to the effectiveness of treatment, the literature shows that the role of communication is crucial.

A specific problem occurs when the patient comes into contact with a health care service. This is a problem of direct interaction. The patient or (more usually) the physician provides so much information to the other that further information cannot be processed. The physician often verbally gives the patient a detailed set of instructions that the latter does not understand. The patient may be hopelessly lost unless someone intervenes to interpret (Fink, 1969). Physicians are often confronted with patients who literally do not speak the same language as themselves. In these situations both patient and physician must resort to a second type of code, non-verbal communication. A study by Gozzi, Morris and Korsch (1969) reveals obvious frustrations and great difficulties in communication. Another problem in communication is medical jargon. Physicians, at times, explain matters to their patients in medical jargon which is a language foreign to the student of any social class. Tape-recordings of physician-patient conversations in which the physician is explaining the patient's condition reveal

frequent non-deliberate use of technical jargon (Kahe & Deutschle, 1967). On the other hand Budklin (1964) reveals the resentment of patients who understand the jargon and are dissatisfied with an oversimplified explanation.

Consequences of Communication Failure

The extent to which health service personnel fail to communicate adequately with those they seek to help has been the subject of considerable study. It is true that opinions on the importance of effective communication may differ and authors present diverse methods of measuring this variable. Nevertheless when communication between doctor and patient is limited, certain consequences become unavoidable (Skipper, McGhee, Carroll, 1971).

Three conclusions seem to recur throughout the literature. First, in cases of communication breakdown, patients are less likely to have confidence in, and less able to co-operate with doctors. Secondly, patients' fears and anxieties about the nature and extent of their illness are not reduced. Thirdly, the incidence of doctors basing their actions on the misperceptions of the needs of their patients increases with increased ineffective communication. A concrete example of this is the study done by Korsch and Negete (1972). This research analyzed 800 mothers' visits to a pediatric clinic. They discovered that about one-fifth of the mothers felt they had not received a clear statement of what was wrong with their babies. Almost half of them left the clinic still wondering the cause of their child's illness. Thus, in this case of communication breakdown these patients had no consequent reduction in anxiety. Of the 320 who were highly satisfied with their clinic visits, 52.4% complied with the physician's recommendations. Only 15.7% of

highly dissatisfied mothers were compliers. The authors suggest that perhaps these patients, due to their lack of understanding and resulting lack of confidence, were less able to co-operate with their doctors. In another study, only 22% of 300 patients attending diabetic clinics in the Ohio University Hospital in Cleveland found the clinic's written instructions comprehensible. These materials were written at the eighth grade level (Bucklin, 1964). These doctors based many of their actions on the assumptions that the patients understood these instructions. These two are recent studies exploring the consequences of communication failure. Many older studies seem to assume that effective communication between doctor and patient was either consistently present or an irrelevant concern. These newer studies have shown that effective communication is not consistently present and is a very relevant concern when dealing with non-medical variables on patient behavior.

Conclusions

An effective communication system will provide both the doctor and patient with a network promoting maximum efficiency and effectiveness of their interaction. (Zola, 1963; Wilson, 1961; Zborowski, 1958; Suchman, 1966; Thurston, 1929; Stoeckle, 1953; Skipper, 1972; Samora, 1961; Rosenstock, 1960; Plaja, 1968; Myers, 1955; Kerr, 1977; Korsch, 1972; Hyman, 1954; Kane, 1967; Henkle, 1964; Gozzi, 1969; Davis, 1968; Bucklin, 1964; Caramazza, 1973; Blum, 1960; Balint, 1967; Beadle, 1966; Anatovsky, 1972).

The quoted studies agree that an effective communication system is one which is formally well-planned, and uses good physical facilities to ensure patient privacy when the patient is conversing with the physician. The physician's ability to understand both patient language

and non-verbal communication, is essential. The doctors must take into account the sociocultural idiosyncrasies presented by his patients. He should make differential allowances for the patients' ability to understand medical jargon. Physicians who do not fear communicating their relative uncertainty about the diagnosis to the patient, increase the effectiveness of their network. Those who do fear loss of "mystique" by explaining medical situations in simple terms, benefit from greater patient compliance. An effective communication system reduces patients' fears and anxieties. The physician's objective is to understand and to apply what the patient says to a scientific medical perspective while at the same time, to be able to advise the patient on her condition and prognosis in a language the patient understands. The literature suggests that lack of communication may stem from the different attitudes and expectations which both doctor and patient bring to their interaction. An effective communication system takes these differences into account and adjusts accordingly. The literature emphasizes the critical nature of an effective communication network, while admitting it does not occur very often within medical settings.

We postulate that the more effective the communication the higher the resultant quality of patient care. This leads to the speculation that the Clinic's communication system is an area that should be carefully examined since it may affect its "success rate".

We have to examine the specific nature of the Clinics' language system to see if it enhances or deters communication between doctor and patient. Effective communication can be a non-medical link between effective diagnosis and effective treatment by enhancing both patient compliance and effective clinic care. It is therefore critical to

examine the effect of the communication system as an influence on the non-medical role of the Clinic in analyzing the success rate of its clients.

THE TREATMENT OF INFERTILITY

TREATMENT OF INFERTILITY

A description of the setting is critical to an understanding of the basic theme of this paper. A previously unexplained conception rate during Basic Investigation at an Infertility Clinic is to be examined. Before we can examine the Clinic in terms of roles, conflict, support, communication, etc., we must know what infertility involves as a physical phenomenon. This is covered in the first section entitled "Medical Aspects of Infertility". The second section entitled "Basic Investigation" details the specific steps the couple goes through at the Clinic during preliminary testing. The final section entitled "Social Setting of Infertility" discusses several sociological aspects of the Clinic and infertility in general. It briefly reviews the social organization of the Clinic and analyzes how different and similar the investigation of infertility is in relation to other diseases.

Medical Aspects of Infertility

Presumption of fertility

Fertility is defined as the ability to conceive (in the woman) or ability to impregnate (in the man). By definition, fertility can be known only after the fact. Until a conception occurs, a man and a woman can think they are fertile based on family precedents or odds in general. However, they cannot know they are fertile until conception has occurred. Although it is true that pregnancy may be prevented with

about 100% certainty, it is also true that once birth-control measures are stopped, 15 percent of all couples will experience some degree of infertility. Pregnancy may be prevented; fertility when desired may be more elusive.

Definition of infertility

Infertility has been defined as "the inability to conceive a pregnancy after a year or more of regular sexual relations without contraception, or the inability to carry pregnancies to a live birth" (Boh, 1964). Infertility is further classified as either primary, where there is no previous history of pregnancy, or secondary, where it occurs after one or more pregnancies. The term "sterility" should be reserved for cases of permanent and incurable infertility. The term "subfertility" has been used to denote couples with a borderline problem. To eliminate confusion, the term "infertility" will be used in this thesis, as it correctly encompasses all states of inability to conceive or to carry a pregnancy.

Infertility can be considered as a symptom reflecting anatomical and physiological derangements rather than as a diagnosis per se. There are at least four general conditions which must be met in order that conception take place. First, the male must ejaculate semen containing vigorous spermatozoa into the vagina of the female (the "seminal factor"). Secondly, there must be free passage for the spermatazoa through the cervix into the uterus (the "cervical factor"). Thirdly, the ovary must release an ovum capable of fertilization (the "ovarian

factor"). Fourthly, there must be a patent Fallopian tube through which the ovum can pass to meet the successful sperma (the "tubal factor"). We have excluded the "endocrine factor" which is usually considered in the study of ovarian function. Except for factors causing absolute sterility (such as ovarian atrophy, azoospermia or congenital absence of reproductive organs), the specification of etiological factors in a breakdown of this delicate and intricate relationship is most complex and difficult. It has been conservatively estimated that 1.5 to 2 causative factors are involved in most instances of infertility. When it is considered that each of these "factors" includes an enormous group of further complications and pathologies, it becomes clear that even isolation of the ovarian factor, for example, does not in and of itself suggest a specific diagnosis.

The seminal or male factor is essentially concerned with the adequacy of the husband's sperm production. When insemination is judged through the post-coital test, the husband may temporarily be assured to have sufficient sperm production. If the post-coital test is less than fair, examination of the male with attention to the urogenital system becomes necessary. Sperm analysis is an integral part of the evaluation. Information regarding the cervical factor can be obtained through the post-coital test. A sample of the cervical mucus is removed for examination. In addition to yielding information regarding cervical insemination, the test also permits an evaluation of the quality of the cervical mucus in the ovulatory phase of the menstrual cycle.

Tests for tubal patency attempt to determine whether the Fallopian tubes are closed in such a way as to be water and air-tight ("tubal occlusion") or obstructed such that the progress of the ovum is impeded ("tubal obstruction"). Two non-surgical tests are currently being used. One test (uterotubal insufflation) involves the passing of carbon dioxide through the uterus and into the peritoneal cavity under controlled volume and pressure. If patency exists, the gas irritates the phrenic nerve at the diaphragm and causes referred shoulder pain. This pain is tentative confirmatory evidence of patency. A more sensitive and accurate test involves the passing of radiopaque fluid under pressure from the cervix through the uterus into the tubes.

Etiology

Two fundamental concepts to be kept in mind are, a) the multiplicity of etiologic factors and b) the equal responsibility of male and female partners. To delineate these possible factors working either singly or in concert, one need only review the pathways of conception in male and female and the disorders of these pathways that may ensue.

A. Female Infertility: Causes

Infection - Regardless of the organism involved, infection is the leading cause of female infertility. Infected tissues become inflamed and discharge an exudate. This often leads to formation of scars and adhesions within the uterus and Fallopian tubes, and even in the peritoneal cavity. Bacterial salpingitis, secondary to pelvic peritonitis, appendicitis, abortion or instrumentation is likely to result in partial blockage of the tubes. Nongonorrheal infection is also likely to result in a condition where adhesions occur.

Endometriosis - A condition in which the normal uterine lining seeds itself into abnormal places. This tissue responds to the hormones of the woman just as her uterine tissue does, and it "bleeds" at the time of menstruation along with normal endometrium. This process may cause scarring and adhesions.

Cervical Factors - Sperm may be stopped or delayed at the cervix by infection, mucus, stenosis, polyps or acid secretions that create a hostile environment for sperm.

Problems of Ovulation - As the woman's hormones are intricately balanced, the problem may be ovarian but be a result of hormonal imbalance. Stein-Leventhal syndrome, for instance, characterized by obesity and excessive hair growth may be the cause of upset in hormonal balance.

Congenital absence or removal of ovaries, structural problems of the uterus, structural problems of the cervix, radiation exposure, and coital technique may all be factors contributing to infertility.

Male Infertility: Causes

Deficiency of sperm production in quantity and quality accounts for the majority of the male's contribution to the problem of infertility. Sperm production may be adversely affected by congenital influences, hormonal deficiency, infection or environmental factors. Often the cause is not ascertainable. Varicocile, hydrocele, adult mumps, acute febrile disease, heat, radiation exposure, coital factors, injury, autoimmune factors as well as retrograde ejaculation may produce infertility in the male.

Investigation: Male and Female

A detailed history of the woman is taken at the first visit to a clinic with special emphasis on her sexual deveopment and milestones, such as onset of menstruation, regularity of periods, sexual experience, previous pregnancies, use of birth control, and frequency of, position during, and feeling about sexual relations with her present partner. The woman is then examined physically to determine her general state of health, her vital signs and the appearance of secondary sex characteristics. Blood is usually tested for hemoglobin level and urine tested for the presence of sugar or protein (both abnormal and signs of possible disease). The investigation of the male also begins with a detailed history of general health and sexual maturation. Attention is also paid to sexual history, frequency of intercourse, attitudes, positions and artificial lubrication.

An essential part of the initial visit and an often repeated test is the basic pelvic examination. The first actual step in the female investigation of infertility is having a woman chart her basal body temperature. This serves two functions. First, it helps to pinpoint the phases of the woman's menstrual cycle which is helpful in scheduling her other tests. However, most important, the basal temperature chart, after if it is kept for three or four cycles, helps establish whether the woman is ovulating and her approximate time of ovulation. The best timing for sexual relations is within the day before or after ovulation occurs. The basal temperature is, incidentally, one of the earliest indicators of pregnancy. A temperature which stays elevated for 18 to 20 days after ovulation is often indicative of pregnancy. Measurement of basal body temperature, which characteristically shows a sustained rise following ovulation is but a rough indicator of ovulation. The evaluation of tubal potency is usually done. Initially it is done by insufflation with carbon dioxide (Rubin test). After the basic investigation is complete a hysterosalpingogram is usually done in those cases which show failure of carbon dioxide to pass or who fail to conceive after an interval of time despite a normal Rubin test. The hysterosalpingogram is an X-ray study used to check tubal patency and/or internal structure of the uterus. Some feel there is a therapeutic effect after this test, but opinions vary. Another routine test done during the basic investigation is the postcoital test. In this test cervical mucus is examined for its preovulatory qualities of clarity, spinnbarkeit, ferning and for the number of viable sperm 8-12 hours after

intercourse. Endometrial biopsy, or biopsy of the lining of the uterus may be performed any time after presumed ovulation. The endometrial biopsy with the demonstration of secretory changes in the endometrium is valid evidence that ovulation has occurred. Laparoscopy culdoscopy and hysteroscopy are all special surgical tests that may indicate the need for corrective surgery. All these tests, however, are done in the post-basic investigation stage. Basic investigation of the male centers around analysis of sperm count. A testicular biopsy or vasography or evaluation of thyroid may be done during basic investigation. However, none of the initial male tests can be considered therapeutic. The techniques described above are generally carried out only in an infertility centre. These centres are fully equipped to perform most of the tests within their own facilities. Gynecologists and private practitioners are usually not equipped to perform such complete medical investigations.

This very brief overview of diagnostic procedures is incomplete but suffices to orient the reader to the type of activities carried on at a well-organized infertility centre and serves also to indicate the considerable advances achieved in the past several years in the clinical investigation of this problem.

Basic Investigation

The basic investigation requires 3-5 months. It commences, with the taking of a complete history and physical examination of the husband and the wife. A thorough gynecological examination is performed on the wife.

A second step in the investigation, the semen of the husband is analyzed. A special work sheet is used. Included on this sheet are commonly accepted indexes of sperm quality. Recommendations are based, on impressions of sperm specimen alone, without the physician necessarily having examined the patient. The husband may then be seen by a urologist for a complete history and physical examination with the results of the spermatologist as a guide. In many cases this concludes the basic investigation of the male partner and attention is then focused on the wife. A work sheet with space for recording results of tubal insufflation, cervical factor assessment, endometrial biopsy and uterogram is filled out at each visit of the wife. The work sheet also provides space for immediate history, pelvic examination, consultants notes, recommendations and any suggestions for the interval between each visit.

The basic investigation requires approximately 8 visits by the wife within the 3-5 month period. The appointments are generally readily available and any extra contact of patient to doctor is generally encouraged. At the end of the investigation, the case is generally discussed at the weekly group meeting of all clinic physicians, and at the next appointment, any results and prognosis/diagnosis are given to the couple.

Social Setting of Infertility

The setting in which this research is to be carried out is of great importance. Interpersonal influences are often concealed and obscured in medical settings where "emergencies" are handled or where the patient is unconscious. Communication is often relegated to mere

reportage of symptoms if present at all. Where pain and fear of death are major considerations, it is altogether possible that these factors serve to initiate, sustain and terminate medical care. Furthermore, measures of medical outcome - "cures" - are often unclear and/or require considerable passage of time to become evident. In order to minimize these and other problems the Infertility Centre was selected as an appropriate setting for execution of the present study. It is, perhaps, furthest removed from a purely surgical atmosphere at the one extreme and from a purely psychiatric atmosphere at the other extreme. It embodies, nevertheless, features of both. In the following description of the Clinic, therefore, it must be borne in mind that while we do not refer to a "typical and average" clinic, we do not intend to portray the Infertility Clinic as unique or "special" in any sense. Observed differences are in degree, not kind.

As a service institution, the Clinic dispenses medical care in a series of structured social situations involving a patient, one or more doctors, and often other medical personnel. The expressed function of the Clinic is to aid childless couples in establishing pregnancies. This goal is paramount and much of the social organization of the Clinic is understandable in terms of it. Some of the more salient features of the Clinic may now be listed.

- 1) In the case of infertility as a medical problem, the treatment process is extended over a considerable period of time. In many cases the extended treatment requires many trips to the Clinic over

a long time, expense, inconvenience, etc. on the part of the patient. A total commitment to the program is required of each client.

- 2) The infertile patient does not "get better" or "get worse" in the common sense of the word. She establishes a pregnancy or she does not. The "cure" is obvious and marked and does not occur in stages. Furthermore, even tentative judgements as to the patient's progress, or lack of it, must be deferred by the responsible physician as hasty and ill-advised. There can, for the most part, be no immediate or promised result.
- 3) The infertile patient is not sick or ill in the traditional sense. Pain, fear of death, and the like, are not important factors in the initiation, maintenance and termination of medical care. Since there are no overt and traditional symptoms to alert the patient to the fact that she needs medical attention, the decision must rest on social and psychological grounds. The self-definition ("I am infertile") which is important in the maintenance of medical relationship is also determined to a great extent, by social factors.
- 4) Childlessness and related phenomena are considered by many to be intimate and personal affairs. They are especially subject to folk notions and theories, and the various consequences related to such susceptibility. Modesty and embarrassment with regard to sexual matters and bodily exposure are also of considerable importance in this connection.

- 5) Specialized facilities for the treatment of the infertile couple are of relatively recent origin. The patient who enrolls in the Clinic is unlikely to have experienced the systematic, comprehensive but tentative type of investigation characteristic of the Clinic. Since expectations are generally based upon previous experience the infertile patient is likely to have few, if any ideas of what will transpire in this new setting which does not correspond with traditional medical investigations.
- 6) Infertility is generally the failure of at least two people to produce offspring. A person, having first perceived symptoms of illness or other clues allowing him to conceive of himself as requiring medical attention, then passes through a self-imposed quiz session. This often seems to be an attempt to understand the significance of the symptoms and to interpret the meaning of what is happening and to evaluate the extent of its threat. If this is true, an infertile marital partner may not only indicate an organic or emotional pathology on his own part, but also on that of his spouse, his parents, his in-laws, etc. The area for inputting "blame" is therefore considerable, centering mainly on the confusion between masculinity and femininity on the one hand and fertility on the other hand.
- 7) The role that others not directly concerned play in the lives of the infertile couple is considerable. Infertility, as has been suggested, is first of all a social symptom. Others may reinforce or subvert perception of the symptom by expressions of pity, regret, chiding, anxiety, humor or ridicule. Unlike many "private" illnesses, childlessness is on display to all interested and

and subject to their evaluation and comment.

This description of infertility is not exhaustive. It does however suggest some of the ways in which infertility differs from and is similar to other medical areas. Its suitability to the purposes of the present study also have been implied in the description. The explicit suitability will now be discussed.

The fact that infertility investigations (as carried out by the RVH Clinic and other leading centers) are relatively recent origin and that folk theories and notions abound in this area increases the possibility that a patient will enroll in the Clinic with expectations and orientations not congruent either with those held by the physician or with the exigencies of the treatment situation. One expectation (gained from experience with other doctors in other illnesses) is that the physician "examines you, then he finds out what's wrong, and he gives you some pills or medicines". This as will be seen, is not likely to occur at the Clinic. Furthermore, a patient is not able to gauge the efficacy of the treatment she does receive, insofar as the "cure" is an all-or-nothing proposition. Unless the patient is aware of these features of the infertility investigation, disappointment and even disapproval are possible reactions. Keeping the patient in treatment, can therefore be a problem. It seems clear that it requires more than simple desire to have a child or motivation to participate in the Clinic's program. While certainly important, consideration must also be given to the congruency of expectations, adequacy of knowledge, effectiveness of clinic communication, extent of positive doctor-patient relationship, role of clinic as a stress alleviator as well as the extent of support from others, as equally crucial aspects of

participation. Good participation, is not an end in itself. The medical assumption is that if a couple is exposed to treatment over a period of time, chances of establishing a pregnancy will be increased. However, it has not been medically documented that any specific technique is the crucial agent. Subsequent to this, arguments have been proposed that "something about the investigation in general", serves to increase chances of pregnancy - even though the specific factors involved in the investigation have not been isolated and defined. As an extension of this, during this study we propose to eliminate the "medical" and "pharmacological" aspects of the treatment. We will contend that sociologically, "something about the Clinic in general" serves to increase chances of pregnancy. We will speculate on the role of possible non-medical factors in the treatment of infertility.

RESEARCH DESIGN

Research Design

This section discusses the design of the research. It concerns proper comparison groups, the adequacy of sampling methods, problems in reliability of coding, etc. Access to data and solutions to the operational problems are discussed. An experiment to determine if the pregnancy rate of women who attend Basic Investigation is significantly higher than the pregnancy rate of women who do not attend Basic Investigation is performed.

Evaluating Change

The clinicians' assessment of patient improvement frequently depends on what his patient tells him. Many conditions are self-limited and others recurrent, and the natural course of most complaints is improvement or alleviation of symptoms. Physicians, however, tend to see patients improve, and they often attribute such changes to therapeutic intervention and not to the natural course of the complaint. Perhaps most central to evaluation of the efficacy of therapeutic agents is assessment of the degree to which improvement is the effect of a curative agent, and the extent to which it is a result of suggestion, encouragement and support offered by the physician (Mechanic, 1978). The present problem is not to confuse the improvement in the patient resulting from sociological factors with the change that can be attributed to the effective specific action of a medically therapeutic agent.

This study evaluates change in a very specific manner. Both the population of the experimental and control groups had been trying to conceive for at least 12 months. No medical treatment in any form had been given to either group within a specified three month period subsequent to that 12 month period. The experimental group, (who matched the control group directly for other variables), had attended the Infertility Centre, and had completed Basic Investigation; the other group had not. The patients from both groups became pregnant, or they did not. Doctor's evaluations were not really required. A simple laboratory test will prove either positive or negative. If pregnancy occurred in either group, it could clearly not be the result of surgical, medical or pharmacological intervention. Evaluating change in this group is easy. Determining the cause becomes the problem.

Proper Comparison Groups

Much of what has been said concerning the difficulty of evaluating change in a medical context suggests the importance of having an appropriate comparison group to use as a basis for measuring change resulting from a specific factor. In theory, the specific influence of a variable must be evaluated in relation to what would have occurred had all other factors remained the same. Since techniques such as placebo effect or double-blind do not apply to this study a control group that matched the experimental group as closely as possible was used. Assignment to both the experimental and the control groups was done on a random basis to insure against systematic differences among those assigned.

Adequate Sampling

Medical studies have often depended on populations of persons who came to clinics for diagnosis and treatment, but who were not necessarily representative of the populations with which the investigator was concerned. Such clinic populations are generally accessible and convenient, and research based on such "captive" groups is relatively economical. However, to the extent that known clinic populations are not representative of having a particular disorder, and to the extent that selection of these persons, as patients may occur on some systematic basis, biases that may lead to incorrect and unwarranted conclusions are often introduced into studies of disease. Various factors other than severity of illness bring people to medical facilities. These selective influences may so bias the arrival of diseased persons that such samples are unrepresentative of the population of ill people.

Our experimental group is composed entirely of a clinic population. However, it is clear, that the sample is not representative of the entire population of infertile people. It is, however, representative of people who attend an infertility centre. The Clinic only provides a convenient and accessible population. The hypothesis is that certain sociological aspects of the Clinic itself contribute to a high "success" rate. Thus, the experimental group must be taken from a clinic population. As we are comparing women, who were infertile and had attended the Basic Investigation at the Clinic, with women who were infertile but had never attended basic investigation, the sample frames are self-defined.

For our control group we examined records of gynecologists for very practical reasons. First, should a woman be trying to conceive, we assumed that she would discuss this question with her gynecologist. He is equipped to handle such questions, and as a doctor, would be completely discreet. Since it is medically generally assumed that 12 months is a reasonable time-frame within which a "normal" couple will conceive, many gynecologists would tell their patients to try becoming pregnant between gynecological visits, generally spaced about one year apart. Should she not be pregnant on her subsequent visit, the gynecologist would note this on her file. Notes would be included at her first visit which would indicate her desire to become pregnant, and notes on her second visit would indicate her success (or failure). By taking the date of the patient's second visit we can guarantee that the patient has been trying to conceive for one year. From her file, we also have information as to her address, age, primary or secondary infertility, religion, social class and ethnic group. This control group can then be matched, variable for variable, with the experimental group. Our experimental group is presumed to be representative of women who attend the Infertility Centre. These women, by Clinic rules, have been trying, unsuccessfully, to become pregnant for at least twelve months. Our control group is presumed to be representative of women who have been trying unsuccessfully to become pregnant for at least twelve months and who consult gynecologists. We then take a following three month section of lives of both groups. Presumably the only difference in the three month period will be that one portion of the matched groups will attend the Clinic and complete Basic Investigation and the other group will not.

Morbidity Studies

The relationship between social factors and morbidity can usually be studied by either examining clinic records or a systematic and standardized clinical evaluation of a particular population or interview attempts to obtain reports of use of various forms of care. We decided, for reasons of convenience, privacy, economy and accuracy, to examine the carefully, accurately documented Clinic records made openly accessible to us. We decided that regardless of other considerations of time/and or expense, that the records were so accurately, and thoroughly maintained that they would provide an excellent sample frame. Since we chose to analyse medical records and summary statistics, we carefully examined the record system to see if they did indeed provide a high degree of correspondence to the actual interview files. We therefore randomly selected 10 cards from our group of 100 patients. We found the cards represented both the interview files and our own carding system very well. Both the interview files and our own carding system were complete, well-recorded and reliable. We found that examination of Clinic records gave us the benefit of systematic and standardized clinical evaluation as well as interview attempts.

The control group was as carefully scrutinized. Some data on the files of the gynecologists were rejected due to such factors as questionability of source, reliability, thoroughness or relevance. However, the doctor's records presented a systematic, thorough and standardized evaluation. Although few in-depth interviews were found in the doctor's records, enough information was found to ensure accurate matching of control group to experimental group.

Problems in Reliability of Coding

The reliability of both experimental and control groups rely heavily on the accuracy of the files. The doctor's files, as well as those of the Clinic were rated according to a) completeness - was every visit recorded in roughly the same depth? b) legibility - were doctor's notes able to be read, if not necessarily easily so? c) comprehensability - was the doctor's note-taking code decipherable? d) consistency - was each visit recorded? e) uniformity - was each visit recorded in the same way? The Clinic's files were uniformly excellent, the doctor's files were also excellent when the non-comprehensible files (about 15%) were disregarded.

Data Collection

Preliminary Observations

In October 1977 the investigator began to speak with the head of the Infertility Centre regarding possible study of the non-medical aspects of the clinic. Informal discussions were held with patients, physicians, nurses, administrative personnel and aides. Simultaneously, a list of all lay publications dealing with infertility was compiled and read. With the aid of several physicians, a group of four or five basic gynecological readings was selected and read. Some personnel on the staff in prior years, but no longer associated with the clinic were located and interviewed to gain perspective on trends and changes in organization.

Review of medical records .

A systematic sample was selected of the 2,000 medical records filed in the Clinic office. (The records are filed alphabetically by last name and year. We began with A of 1968 and took every 5th name to ensure an adequate sample.) To obtain an experimental group of 100 patients, it was decided to limit the sample to patients attending the Clinic between 1968-1972. This guaranteed a 5 year recorded follow-up on each case selected. Such data may prove relevant in some extension of this study. These records included all of the patients seen at the Clinic since 1952. By selecting 100 of these records at random out of a 5 year sample, a picture of the Clinic population was obtained. The following information was obtained from each record (all gathered information will not appear in this study); race, source of referral, date of first appointment, age of husband, age of wife, occupation of husband, social class, length of present marriage, length of attempt to conceive, use and type of contraception, number of previous pregnancies, number of previous investigations (husband and wife), extent of previous investigation, address, number of visits made (approx.), number of different doctors, number of cancelled appointments, number of "talking only" appointments, number of major tests, treatments, B.B.T. performance, diagnosis, participation, outcome, response to Clinic follow-up. All this data was coded and little information was found to be missing. Considering the many complications involved in obtaining systematic and comparable data, especially of a "medical nature", the data source proved excellent. Doctors infrequently resorted to a private code when reporting interview data or treatment. The doctors

were generally concise and consistent in recording data, and in several cases even recorded patient's telephone queries and appropriate responses.

Definition of experimental sample

Note that the achieved sample is in no way representative of "infertile patients" as a group. No evidence exists as to the composition of the infertile population. The only patients who have been studied are those who sought treatment from a medical facility which maintains and publishes its statistics. Ignored are those people who never seek treatment or who visit those general practitioners or gynecologists who do not publish figures. If these people do not appear at a clinic, like the infertility centre, they remain anonymous. Thus the findings and inferences refer to a very limited and segmental portion of the universe.

Control Group

By necessity, the control group was taken from files of gynecologists. (Discussion of sampling of the control group will appear in the next chapter). As previously explained, incidence of infertility and success rate in the general population would be otherwise very difficult to calculate. We do include comparative data (see appendix section 2) gathered from reports 1860 - 1970 on over 3,000 women. (It is interesting to note that the success rate in our control group, 6% is not far from the projected rate 8% obtained from the comparative data.)

Our discussions on research design illustrates the scope, and depth of our undertaking. The next section will detail the results.

PRESENTATION OF FINDINGS

PRESENTATION OF FINDINGS

Experimental Group

The experimental sample consists of 100 women who attended the Clinic. Their first appointment was recorded during 1968-1972 and the month of their initial visit was uniform throughout the twelve months. By rules of the Clinic, each wife was seen with her husband at the first interview. The age range of the women ran between 18 and 43, with the majority of patients between 26-30. The husbands ranged in age from 21 to 53 and most were between 31-35 years old. Any age difference of more than 9 years between husband and wife disqualified them from the experimental group, since it was felt such couples may constitute a separate sub-group with particular problems. The group was broken down into the primary and secondary cases of infertility. The medical definition of primary infertility is a woman who has never conceived, and secondary refers to all others. The ratio of primary to secondary was roughly 8 to 2 which mirrors the general distribution of patients at the Clinic. The exposure time of trying to conceive unsuccessfully without contraception was at least twelve months. Exceptional cases, such as women over 35 or cases of severe amenhorrea would have been disgarded in our sample, but none appeared. Exposure time varied between 1 and 15 years. The majority of cases were exposed from 1 - 2

years, but 20% were more than 5. The breakdown between Protestant and Catholic was about even. Social class is predefined by the Clinic according to husband's occupation. Class 1 is defined as professional or executive, class 2 as white collar and class 3 as semi-skilled or laborer. Classes 2 and 3 were about equally represented with a smaller representation of class 1. By ethnic group breakdown the number of English-Canadians was double that of French-Canadians. This is not surprising since the Royal Victoria is basically an English-speaking hospital. There were 8 other ethnic groups represented. It was interesting to note that instructions were printed by the Clinic in six languages.

The most critical breakdown is, obviously, the one relating time in months to first pregnancy. It was broken down into two categories only: those patients who became pregnant in 0-3 month post-initial interview, and those who did not. The breakdown is purposefully done in two parts only to make the first group very clear. Whether or not the patient became pregnant at plus 3 months, or after medical treatment, does not concern this particular study. If the patient took 4 or 5 months to complete the investigation instead of the average 3, she was included. For some women with a longer than average menstrual cycle the investigation, which normally requires 3 menstrual cycles, was slightly delayed. By the same token if the woman received any medical treatment during the 3 month investigation she was disqualified. The data was tabulated onto cards, and each card corresponded to a file which was read carefully. The experimental group had a 28% success rate.

Control group

In order to assess the meaning of the findings in the experimental group, it was decided to set up a control group. Since finding a group of women who had been trying, unsuccessfully for at least 12 months to become pregnant, in a general population would have been next to impossible, it was decided to approach several private gynecologists. It was felt that gynecologists may have records on such a population. Women most often see a gynecologist once a year. Those who would try to become pregnant would likely mention it to their doctor when he asks the routine questions concerning contraception. The doctor would probably not show concern at non-conception until the woman's next check up in twelve months time. If we could section out the 0-3 month time after the second visit, we could compare it to the Clinic group. Both groups would have been trying to conceive for at least 12 months, have had no medical or pharmacological treatment and supposedly have an equal chance of conceiving.

The control group was chosen from approximately 600 patients from 15 gynecologists. Each doctor was approached, given a rough idea of the experiment, and asked whether he might provide some statistics for the control group. It was carefully explained to each doctor that no contact would be required with the patient and that all data would be coded with no use of names. Response was excellent. Although not all doctors were convinced of the validity of the study, all provided uninhibited access to their files. The only concern was that the investigator not require an unreasonable amount of cooperation and time of their nurse/secretary and that file-probing be done during non-office

hours. Both wishes were granted. Out of the 600 relevant patients, 100 were selected to best match the experimental group according to a) age male b) age female c) primary/ secondary infertility d) time in months to first pregnancy e) religion f) social class (if available) g) exposure time. This proved to be a much greater task than creating the experimental group. Each doctor's handwriting and coding system had to be discerned. Records were examined from 1968 to 1972. Files from two physicians were discarded since inconsistencies were found in their coding system. Although the required group could have been created from the files of 2 or 3 doctors alone, 15 were included to make the sample more mixed and reduce the possibility of a particular doctor's influences on his particular patients. The control group was matched with the experimental group as closely as possible. The time in months to first pregnancy was then recorded. The control group had a 6% pregnancy rate in the first three month period.

Of the 100 experimental subjects, 28 are considered "successes" in that they established a pregnancy while enrolled in the Clinic but before receiving medical treatment. The control group had 6 pregnancies. The comparative data (see appendix section 1) suggests a projected success rate of 8%. The success rate at the Clinic is at least 3 times that of a normal population.¹ Thus attending Basic Investigation at the Clinic alone increases a couple's chances of conception, allowing for no surgical or pharmacological intervention.

1 The Chi-Square test for independence of conception rates and attendance or non-attendance at the clinic is 17.16 which is greater than the Chi-Square value of 6.64 \sim .01. This indicates that the relationship between the two variables is statistically significant at the .01 level.

"Conception" in this study is not thought of as a uni-dimensional phenomenon. Our focus is not so much on conception, as on the circumstances of such an event. "Where" and "when" are crucial considerations in this regard. For example, a pregnancy occurring while the patient is enrolled in the Clinic is thought of as a fundamentally different event than one occurring four years subsequent to Clinic enrollment while the patient is in treatment with another physician. While the later event may be assumed to be unrelated (at least directly) to the Clinic, the former is assumed to be so related. Much debate has, of course, centered about the question of "which pregnancies the Clinic may take credit for and which not". For present purposes, it seems reasonable to assume that any pregnancies occurring while the patient is enrolled in the Clinic be thought of as Clinic-related. Since the focus of the present study is not on the incidence of pregnancy per se, but on the comparison of those patients who succeeded in establishing pregnancies and those who did not, the above limitation is not handicapping. Of the 100 subjects, 28, are considered to be "successes" in that they had established a pregnancy while enrolled in the Clinic but before receiving medical treatment. The dichotomy of "failure" and "success", does not, of course, pretend to describe failure or success in absolute terms. It does, however, provide one such measure. Other indications, perhaps more sensitive and meaningful will be examined later.

SOME IMPLICATIONS OF THE RESEARCH

Our implications of research will provide hypotheses amenable to future testing based on the results of our findings. Our experiment revealed a grossly elevated conception rate among women attending the Infertility Centre, when compared with women who did not attend the Centre. The literature review revealed the importance of doctor-patient relationships and effective communication as factors affecting success or failure in medical settings. Both factors are examined in relation to the success rate found. It is suggested that they play a major role in accounting for our findings. As a result, testable hypotheses relating each factor to conception are formulated. The section concludes with a discussion of the general implications of the findings.

Doctor-Patient Relationship

We propose that certain aspects of the doctor-patient relationship at the Clinic are influential in the augmented Basic Investigation success rate.

The literature has shown us that the physician is often granted a unique position of power. This power may play a critical role in the Clinic's influence on the patient. The doctors at the Clinic are, obstetricians as well as gynecologists. That is, they are specialized in the handling of problems of the expectant mother, delivery etc. as well as their interest in infertility. However, at the moment the

patient is being investigated she is led to believe (whether or not this is actually true), that infertility is their specialty and main concern. The belief that they are in the hands of a concerned "specialist" may reinforce the patient's confidence that she is receiving the best possible care. There seems to be an enormous potential at the clinic for a positive relaxed doctor-patient relationship.

The patient, in the waiting room, is not surrounded by a group of very visibly pregnant women, as she may be in a gynecologist's office. She does not hear conversation about "due dates", "interminable labour" etc. The conversations she overhears are more likely to be about timing of clinical investigation testing. Since she makes numerous visits to the clinic, these effects may play an important part in her morale. By the time she arrives face-to-face with the doctor, she may be in a relatively positive frame of mind. She may be, at this point more willing to co-operate in the doctor-patient relationship than if she were in any other setting. Many factors involved in the doctor-patient relationship appear superficially obvious. Our findings suggest a deeper investigation.

The doctors at the Clinic seem generally optimistic that infertility may become modifiable or even preventable if the individual's adaptation and pattern of relationships with his sexual life can be monitored and if necessary appropriately modified. (This naturally assumes no physical problem.) This guarded, but constructive, optimism is often the patient's first contact with anything other than

a "let's wait and see" or "give it time" or "you're still young" attitude. The unspoken optimism of the clinic's doctors may be essential in creating the positive doctor-patient relationship which we feel exists in the majority of cases.

The relationship between disease and distress becomes evident in any study of infertility. The Clinic doctors have often been able to practice both illness-oriented and patient-oriented medicine on the same patient. They seem able to mobilise or harness their power even within the restrictive framework of an Infertility Centre. Infertility seems uniquely sensitive to the positive doctor-patient relationship, that may exist during Basic Investigation. The confidence and relaxation and unspoken optimism instilled in the patient may create a favourable condition which "allows" the patient to become pregnant (providing no physical problems).

Although a positive doctor-patient relationship may seem to be difficult to measure, that does not make it insignificant. We will, in a later study, try to show a high correlation between a positive relationship and measures of constructive patient change (pregnancy). If this proves true, we can see the potential of the Clinic to provide the ideal setting for relaxation and confidence on the part of the patient. The doctor can take fullest advantage of this potential and the combination of relaxation and confidence and medical investigation may account for this higher than normal pregnancy rate.

A physician's role model is one of technical concern but relative emotional detachment. However, the Clinic may be able to create extra emotional involvement. Perhaps it is a clue to the infertility patient's needs and another explanation of patient participation and resultant pregnancy rate. Although we do not argue that emotional tension is a proven cause of infertility, it is difficult to deny that it does not play some role. If the Clinic doctor aids in release of this tension, the increased pregnancy rate would not be surprising.

We conclude that the Clinic may provide a positive doctor-patient relationship between staff and patients. We suggest this atmosphere of mutual trust, confidence and relaxation reduces tension in the patient. Where there are no other physical inhibiting factors, this relaxation may promote fertility. The period 1968-72 guaranteed a continuity of relationship between doctor and patient. Team-work approach to clinic care had not yet affected the Infertility Centre. A specific doctor was assigned to each patient as she began the Investigation, and she saw the same doctor at each visit. The doctors' files revealed no differentiation of procedures due to varied patient characteristics of education, social class, etc. Unhampered personal contact was encouraged between doctor and patient. Doctors returned patients' calls promptly and did not appear concerned with either quantity or quality of their queries. During the initial interview, doctors generally promoted the belief the infertility may be modifiable in many cases. The doctors revealed a level of voluntary personal involvement with the patients. The doctor suggested that the Basic Investigation will be "attacted" as a "team" effort, i.e. husband wife and doctor. He tried to enhance the

patients' coping mechanism and determination to complete Investigation. "Irritation" on the part of the doctor did not seem evident. "Shame" of failure was not encouraged, even when the patient did not comply with such tests as the B.B.T. The doctor tried to inform the patient very specifically about what behavior is expected of her, and what behavior she could expect from him.

We postulate that a positive doctor-patient relationship exists at the Clinic between physician and client. We do not believe that this strong positive relationship with infertility as the focus, exists outside of an Infertility Centre. We believe that no other medical setting can provide the time, equipment and specialized concern for the proper formation of the positive relationship. We hypothesize that a) the doctor-patient relationship at the Clinic is positive (as per our definition) b) that this relationship leads to maximum patient compliance, reduction of anxiety etc., which may influence the augmented conception rate and c) that this relationship is frequent and reinforced at the Clinic, as compared with any sporadic and isolated positive doctor-patient relationship with respect to Infertility outside the Centre.

We are examining social aspects of the clinic's method of Basic Investigation. The Clinic may provide several unconscious avenues to promote effective communication between staff and patients. This increased effective communication may help promote attendance throughout the investigation, reduce fear, anxiety and ignorance, and thus, give

the patient the very best chance to become pregnant. Our findings revealed that the patients of the Clinic had a higher than average rate of becoming pregnant, and we postulate that effective communication gives the patient the maximum of chances to become pregnant. The Clinic's empathetic and effective communication system may have a direct positive effect on the patient, but the full investigation will be done in a more complete study.

The role of effective communication between the patient undergoing basic investigation at the Clinic and her doctor is very crucial. Should a communication breakdown occur, the patient may have less confidence in the Clinic set-up and may be less likely to co-operate with the doctor. Since the Clinic has a high completion of investigation record, we assume that the doctors are able to effectively communicate the complex requirements of the Clinic to the patient.

Infertility is usually followed by a great fear and anxiety about the nature and extent of the illness. To reduce such fears, the Clinic provides the patient with clear, concise medical explanations at her first visit. These papers are available in six languages and in a clear typewritten form for her to take home and read carefully (see appendix section 2). Although we realize not all this information will be read or understood, it is available to the patient who normally would have difficulty obtaining access to such a relevant, clear but concise explanation. (It is interesting to note that at the Clinic, where ignorance was found to be the only obstacle to fertility, 100% of the patients became pregnant.)

Since the original interview between husband/wife and the doctor usually takes up to 2 hours to complete, the interview may effectively aid the doctor in perceiving the specific needs of the patient. The interview files contain vast quantities of information peripheral to the problem of infertility. However, it is often this very information which indicates to the doctor the most effective path to positive communication during the following intense encounters. Should the first interview result in a lack of understanding on the part of the patient, it may result in a lack of confidence and resulting lessened ability to co-operate. The generous length of time allocated the patient in the initial interview may be a critical factor in the Clinic's success rate. Many Clinic patients may have never experienced effective communication with anyone concerning their problem prior to their first visit to the Clinic.

By observing the direct interaction between doctor and patient at the Clinic we see a very complex situation. Both sets of actors have to communicate to each other a great deal of information within a relatively short defined period of time. Add to that the many patients who cannot speak either English or French, as well as the intimacy of the topic, and it is not difficult to see the frustration of both parties. If we examine the interviews conducted by the doctors in this light, the quality of their work is quite exceptional. Communication at the Clinic will be examined very closely.

Literature has shown that failure to keep appointments is most often a result of communication failure. Our findings have revealed that those women who completed Basic Investigation had a higher success rate than women who did not attend the Clinic. Should communication

breakdown result in patient non-compliance, the Clinic's success rate we may assume, would decline severely.

For example, ignored sociocultural patterns often cause recommended health practices to conflict with crucial norms and values held by individuals in a particular subculture. We observed that cultural differences were often analysed fully during the first interview, and recommended procedures often took account of these variations. Since the Clinic's primary objective is the reduction of infertility, cultural attitudes to reproduction expressed by the varying ethnic groups are considered when interviewing the patient for the first time. This factor will increase effective communication between patient and Clinic and may increase patient compliance.

The Infertility Clinic is an example of both "team-work" and "interdisciplinary" concept of health care. It is "team-work" in the sense that a patient will not always see the same doctor on her subsequent visits. This concept is a new North American trend, assuredly efficient in time, money, and exposure of doctors to a variety of medical situations. It is "interdisciplinary" in the sense that the Clinic may send the patient to other specialized departments for further testing, if they feel the situation requires it. For example, the urology or the dermatology department may be asked to give a second opinion or conduct further testing in an area the departments specialize in. The concept of "interdisciplinary" medical care does not disrupt the positive communication between patient and Clinic. These tests usually involve little demand on the patient for intense or longstanding involvement with the other departments. She is sent "out" as a member of the clinic, and returns "in" rather quickly.

The question of "team-work" care is an entirely different subject. Many doctors point out the obvious advantages of team care, such as increased experience exposure, varied angles of diagnosis etc. However, effective communication may not be able to exist should the patient be exposed to a new relationship at each visit. We propose that as "team-work" increases, effective communication decreases. (It is interesting to note that since recent implementation of the team concept attendance through Basic Investigation at the clinic has dropped 15%).

Our findings and literature review combined to suggest that a positive relationship exists between effective communication and an increased pregnancy rate maximizing the potential Clinic benefit to the patient.

Patients outside the Clinic may have a more difficult time obtaining sufficient medical advice or adequate discussion time with their doctor. Although this effective communication may occur outside the Clinic, we argue that its occurrence will be sporadic and isolated rather than common and reinforced as it is at the Clinic.

General Implications

After a number of menstrual cycles pass, using no contraception and having reasonably regular sexual intercourse, most couples would expect pregnancy to occur. Should this not happen, the couple may begin to feel uneasy. As other couples in their circle of friends and workers begin to raise their own families, they may pass into a stage of "social interference". That is, not having a child excludes them from several child-oriented social activities. Subtle or overt advice from significant others may herald the "presence of sanctioning". The patient's social and cultural understanding may suggest which form of medical help to seek.

Since many individuals may be infertile, but not all are under medical care, an interesting question is who seeks help for infertility and why. Is the individual's response to infertility due to impairment of their social role (as potential parents) or is it concern with the actual medical problem? Although we may gain clues to the beliefs of our Clinic population by interviewing them at their first visit, the beliefs of those "normal infertile" couples in the general population are more difficult to obtain.

The reason why the patient attends the Clinic and what she expects from it seems self-evident. Obviously the patient is not pregnant, wants to be and believes the Clinic will help her conceive. However, many sociological influences may affect the patient's attitude toward and the expectations of the Clinic and its medical services. These

attitudes and expectations may promote or hinder progress in basic investigation and the resulting pregnancy rate. Going to the Clinic may be treated as an institutional relationship and we will examine patient attitude toward, and expectation of, the Clinic. If the Basic Investigation is as therapeutic as we believe, we must examine both the intentions and expectations of both doctor and patient.

The literature has revealed that the final act of seeking professional medical help may not be directly related to the severity of the medical problem. In the study of infertility we must be very careful to analyze the role of stress. Although the role of stress in producing infertility may be hard to substantiate, the role of stress in help-seeking is more amenable to investigation. In our proposed interviews we intend to rigourously examine the circumstances under which the decision to seek medical help was made. The decision to seek help at the Clinic may be based on non-physical grounds.

Both the experimental and the control group, were composed of women who had been trying to become pregnant for at least twelve months prior to the experiment. The Clinic group had participated in Basic Investigation at the Clinic where the quietly confident atmosphere may produce maximum potential for conception. Although both groups desired conception, only the Clinic group was exposed to the Clinic. Women outside the Clinic are not uniformly provided with a formal structured system of reinforcement and communication about infertility that the Clinic provides. Thus, we conclude the Clinic to be the critical intervening variable between the couple and pre-treatment conception.

CONCLUSIONS

CONCLUSIONS

Throughout the analysis it was noted that "something" involved in the treatment experience was making its impact felt on participating patients. Sufficient evidence exists to suggest that many medical procedures currently used do not in and of themselves directly and specifically influence pregnancy rates in the majority of cases. Certainly, these procedures are not relevant when pregnancy occurs prior to basic investigation, or during the course of it.

The suggestion that sociological research may contribute to an understanding of this problem does not deny that the phenomenon of conception is basically a biological matter. All else aside, in order for a pregnancy to occur, a series of physical pre-conditions must first be satisfied. In the discussion to follow, it must be borne in mind that social factors provide only the beginnings of comprehension. Further research by gynecologists, endocrinologists, psychiatrists and others is needed to specify the physiological processes and linkages mediating the operation of social-psychological factors and the biological fact of pregnancy. Nevertheless, the delineation of a possible sociological dimension would be suggestive of a starting point for future investigation.

The Clinic population differs from a non-Clinic population in many respects. An infertility Clinic offers the couple the services of a "specialist" in infertility. Whether or not this is true, the couple's belief is the important variable. No other medical or non-medical service (including obstetricians, gynecologists, or private practitioners), offer the couple the services of a physician who deals

mainly with infertility and its problems. The confidence, relaxation and unspoken optimism that is associated with a department specializing in infertility is not duplicated by any other medical or non-medical facility. The Clinic's concern with transmitting the complex requirements of infertility investigation is part of its communications network. No other medical or non-medical service can afford the time involved in this complicated undertaking. No other medical facility is prepared to spend 2 hours with a new patient discussing both medical aspects of infertility and subjects related to, but peripheral to infertility. As well, a patient cannot feel "part" of a team in any other setting treating infertility.

Viewed sociologically, the Clinic may be seen as a service institution which provides patients with appropriate role-conceptions. The significance of the "infertile" role lies in the fact that it is, by definition, a temporary role. Furthermore, it is an ambiguous role at best; but simply there exists not one clear-cut expectation associated with it. In distinction from the role of the "sick person", the infertile person is a) not exempted from normal social role responsibilities b) not thought of as needing help (because it's God's will, etc.) and c) not constrained to get well quickly (since one is "not sick") and d) more often than not, held personally responsible for being barren. On the other hand, one may not claim to be "normal". Since child-bearing is taken for granted as "natural", failure to have children implies some degree of abnormality. A self-definition either of "sterility" or of "normality" is socially meaningful. "Infertility", however, is marginal to either role and is not socially meaningful.

Were there no such thing as treatment for the childless couple, this role ambiguity would not exist. The Infertility Clinic then serves to create the possibility of defining oneself as being "temporarily barren" or infertile. The Clinic, however, also officially legitimates this role conception by classifying and referring to individuals as "infertile" patients. It was stated above, that the Clinic might be viewed as a service institution which provided patients with appropriate role-conceptions. By this it was meant that the Clinic not only creates and legitimates the individuals' new role, but also directly or indirectly serves to resolve the ambiguity inherent in the role. Directly, it informs the patient that she is "normal" or "sterile". This notification may take the form of the doctor telling the patient verbally. Indirectly, the Clinic temporarily suspends the self-definition by allowing the patient to say that "now the doctors are looking after me and they will tell me what the trouble is". Doubts and anxieties as to one's self-identification may be officially and legitimately postponed until after the basic investigation. In light of these considerations, it may be possible to infer that a resolution of role ambiguity is related to the successful establishment of a pregnancy. Such an inference, of course, is justified only in those cases where a definite physical abnormality precludes pregnancy. However, when the vast number of "normal infertile couples" is tabulated, the problem appears reasonably common.

In instances of unexplained pregnancies, the concept of role resolution leading to stress relaxation and acceptance of "advice" seems plausible. For some patients, the mere act of making an appointment,

defining themselves as "infertile", may be the relaxer, sufficient to allow conception. Others conceive after the first visit. It may be that the feeling of "now we'll get help", and of "it's in the doctor's hands" occurs in these cases, not after making the appointment but only after the appointment is concretely realized. For other patients, it does not seem to be sufficient that they merely go to the Clinic for one appointment. The tests of the Basic Investigation seem necessary to "prove" that they are "normal".

This presentation is certainly not intended to suggest a verified hypothesis. It seems reasonable to propose that the concept of role resolution as described here warrants further consideration and research. Of additional interest would be an analysis of why some patients are able to redefine roles early in the examination process while others do so only after the investigation is complete. It may be suggested that patient expectations and comprehension are of relevance in this connection. Thus, for patients expecting "miracles", a phone call for an appointment may be sufficient to impress upon them the fact that their problems are "as good as solved". They believe they are no longer "sterile" and are indeed guaranteed of ultimate fertility. For other individuals less able to comprehend the rationale of the treatment process, one or two visits to the Clinic may provoke feelings that scientific minds and instruments are at their disposal. For those more enlightened (or perhaps skeptical), a longer exposure replete with empirical evidence may be necessary. In any case, research into these considerations, viewing the Clinic as a focal point about which other social and psychological processes are set in motion, would be instructive.

The processes, however, are not unique to infertility, as a medical area. All institutions (medical and otherwise), are founded upon, and operate through, a network of inter-personal relations. It is to be expected that social factors will affect their functioning regardless of specific contexts. Moreover, as suggested in the present study, client participation in the program of a service institution may be of central importance. The social factors described in relation to participation may be of relevance in other institutional contexts as well. Thus, the extent to which clients understand what is happening to them while they receive service would seem to be associated with the extent to which they participate effectively in a institution's program. Education, in this sense, would appear to be necessary for intelligent utilization of offered services. In addition to education, the client's expectations of functionaries of the institution may also be of importance insofar as they affect the communication process, and consequently, participation. The further possibility that the client may be unacquainted with the institutional specialist and his team, and may expect a very different type of client-functionary relationship than is in fact present, can be detrimental to client satisfaction and the goal of the institution. Incompatible expectations in this realm may produce negative feelings on the part of all concerned, and, as a result, disadvantageously affect participation.

These considerations suggest a broader framework within which to view the findings and the implications of the present work.

APPENDICES

APPENDIX 1: COMPARATIVE DATA

Despite the fact that "sterility" is an age-old problem, and despite the fact that there have been advances in research, there seems to be little published information regarding the incidence of infertility in the general population. Studies report the proportion of childless couples among marriages of completed fertility, but this data leaves unanswered the question of whether reported childlessness is of a voluntary or involuntary nature. Consequently one must rely upon clinical impressions and generalizations offered by gynecologists. Before examining the results obtained in the treatment of those people who come to infertility clinics we have reviewed some of the facts about reproductive failure and the procedures used in such diagnosis. The results of research is then be more comprehensible.

Incidence of Fertility: Comparative Data

The prognosis for an infertile couple is better than physicians or laymen generally assume. Published reports cited conception rates which were minimum estimates, usually about 30%, but varying from 10-60%. The wide range seemed more a result of variations in the duration and completeness of follow-up than in differences in diagnostic or therapeutic effectiveness. Using the life-table methods, many studies compare the conception rate for groups which vary in size, completeness of follow-up, and relative magnitude of conception rates during the intervals. However, we cannot use the cumulative conception rate since we are interested in the pregnancy rate of a very specific three month period. This non-cumulative rate helps us illustrate the percent pregnant within the 0-3 months compared with those pregnant with the 6-12 month or 12-18 month period. An interval usually exists between the time when a couple can conceive and when they actually do conceive.

Known and unknown defects lengthen this interval of time. Conception may not occur until the defect has been removed or condition improved by medical treatment. Some defects are present that make conception impossible and cannot be altered by any known medical treatment. These couples must be considered sterile. Although couples that reach the end of the child-bearing period without children can be referred to as the terminal infertility rate, all couples can be classified into 4 groups: 1) those voluntarily childless 2) those sterile because of defects that make conception impossible 3) those with defects that reduce but do not preclude conception 4) those with no apparent defects who still do not conceive. Infertility studies are aimed at helping those in the last 2 groups.

Of primary concern to all who examine and treat infertility is the effectiveness of conscious or unconscious therapeutic methods. However, we must have an accurate knowledge of the incidence of infertility in normal couples in our population not treated for infertility. The results of this data can then be used as a background for assessing the role of the infertility centre as a specific therapy or factor in an elevated success rate.

Comparative data is presented to place the findings in perspective. Attendance at the Infertility Centre (with no medical treatment) may result in a higher than predictable success rate. The Clinic's rates of success were hypothesized as higher than the average, but the predictable "average" is only a figure vaguely alluded to in many studies. None of these studies on infertility could, alone, provide a specific, substantial figure. A figure was compiled by integrating as much data as we possibly could.

Study 1

Authors: Freedman and Whelpton
Year: 1955
Total Sample: 1490 couples
Description: white women, between 18-39 years old.
Conclusions: fertility rate at 12-18 months, no
contraception 4% for live births only

Study 2

Authors: Whelpton and Kiser
Year: 1941
Total sample: 1977 couples
Description: Native born, white protestant, at least 8
grade education, Indianapolis.
Conclusions: fertility rate at 12-18 months, no
contraception 9.8%, for live births only

Study 3

Authors: Weir and Weir
Year: 1961
Total sample: 500 couples
Conclusions: 8.3% fertility rate 12-18 months no
contraception.

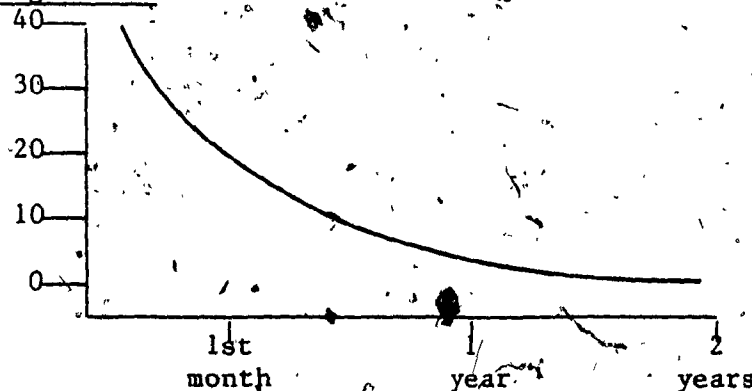
Study 1
Freedman and Whelpton
Growth of American Families
1948
Page 181

	Interval of years after marriage	Conception in each interval
1	247	22.5%
1½	132	9.0%
2	74	3.8%
2½	48	2.0%

Study 3
Wier & Wier
The Natural History of Infertility
1961
Page 1142

Int. after Marriage In years	% conceived
½ yr.	50.5
1 yr.	13.4
1½ yr.	8.3
2 yr.	4.3
2½ yr.	3.2
3 yr.	1.5

Study 4
Swyler
Outcome of Pregnancies
1923
Page 425



Chance of conception at successive periods after exposure
(fertile couples only)

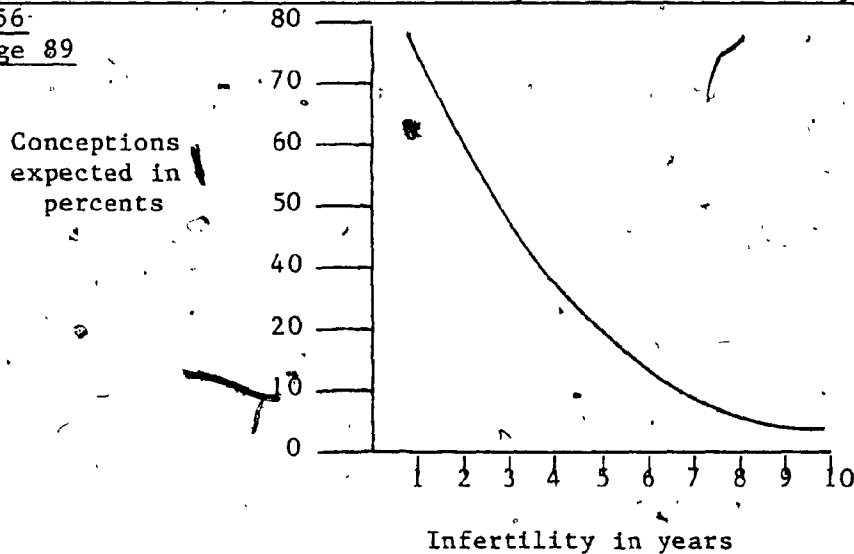
Study 5

Tietze

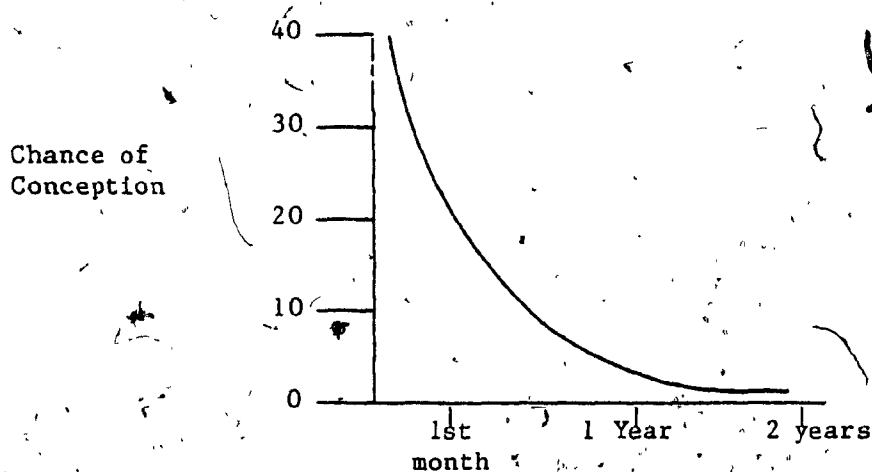
Statistical Contribution to the Study of Human Infertility

1956

Page 89



Conceptions expected for the average American couple given no treatment for infertility. Terminal infertility rate is 12%.



Chance of conception at successive periods after onset of exposure (fertile couples only).

Further analysis of the data gives not only the number of couples at each interval that have not conceived, but also the number of these that will eventually conceive. The expectancy of conception can then be calculated at each interval of infertility if no treatment is instituted. It is this expectancy rate that can be used as a measure of the success or failure of overall treatment in infertility problems.

The expectancy rate can be used as a measure of success or failure of treatment in infertility problems. For example, for those couples who were infertile after 1 year, about 8% would conceive without further treatment. If, after attending an infertility clinic an appreciable number above that 8% achieved conception, the role of the Infertility Clinic may then be examined.

APPENDIX 2: COMPOSITION OF EXPERIMENTAL AND
CONTROL GROUPS BY MATCHED VARIABLES

100% of each group lives in greater Montreal. They have been trying to conceive unsuccessfully for at least 12 months, have had no medical treatment nor is the female an habitual aborter.

1. Breakdown of each age group

		- 20	21-25	26-30	31-35	36-40	41 +
Exp.	Female	4	26	45	21	3	1
	Male	0	7	35	40	13	5
Control	Female	4	25	48	18	4	1
	Male	0	7	35	41	12	5

2. Breakdown by primary and secondary infertility

	Primary	Secondary
Exp.	77	23
Control	77	23

3. Breakdown by time in months to first pregnancy

	0 - 3	not 0 - 3
Exp.	28	72
Control	6	94

4. Breakdown by religion

	Protestant	Catholic	Other
Exp.	38	47	15
Control	40	40	20

5. Breakdown by social class

	1	2	3
Exp.	16	45	39
Control	16	45	39

6. Breakdown by ethnic group

	English Canadian	French Canadian	Other
Exp.	33	14	53
Control	33	18	49

7. Breakdown by exposure time

	- 1	0-2	2-3	3-4	4-5	5 + years
Exp.	0	40	23	12	5	20
Cont.	0	40	23	12	5	unsure

APPENDIX 3 - TECHNICAL DATA

GLOSSARY

Adhesion - An abnormal attachment of adjacent serous membranes by bands or masses or fibrous connective tissue.

Amenorrhea - the absence of menstruation.

(AID) Artificial Insemination by Donor - the instillation of donor semen.

Basal Temperature - The temperature of the woman, upon waking in the morning before any activity.

Cervix - Neck or opening of the uterus into the vagina.

Coitus - Sexual relations.

Conception - Pregnancy.

Culdoscopy - Direct visualization of the ovaries and the exterior of the Fallopian tubes and uterus by means of an instrument inserted through a small incision in the vagina.

Endometrial Biopsy - Extraction of a small sample of tissue from the uterus for examination, usually to show evidence of ovulation.

Fallopian Tubes - Pair of narrow tubes that carry the ovum from the ovary to the body of the uterus.

Hysteroscopy - An X-ray study in which dye is injected into the uterus to show delineation of the body of the uterus and patency of the Fallopian tubes.

Laparoscopy - Direct visualization of the ovaries and the exterior of the tubes and uterus by means of an instrument introduced through a small incision below the navel.

Ovulation - The discharge of a ripened ovum, usually about the midpoint in the menstrual cycle.

Postcoital Test - Also called the Huhner or P.K. test. A diagnostic test of infertility wherein vaginal and cervical secretions are analyzed under a microscope within several hours of sexual relations.

Secondary Infertility - The inability to conceive after having successfully conceived one or more pregnancies.

Semen Analysis - The study of a fresh ejaculate under the microscope to count the number of million sperm per cubic centimeter, check the shape and size of the sperm and note their ability to move.

Tubal Insufflation - A harmless gas - carbon dioxide - is blown into the uterus under pressure and will escape out the tubes if they are open.

Uterogram - See Hysterosolpingogram

ROYAL VICTORIA HOSPITAL
INFERTILITY CENTRE

Dear Patient:

You have come to us to find out why you do not have a baby, and for correction of the cause of your infertility problem.

There are several tests which we routinely perform in the Infertility Center which will give us information about the function of your reproductive organs (of both husband and wife) and help us to diagnose your problem.

In order to assist us in the completion of these investigations we request your interest and cooperation.

The following pages will help you to understand how these investigations proceed and what we hope to learn from each one. Approximately three months is required to complete them. Occasionally it is necessary to repeat a test, or to perform additional special tests. These tests and the reasons for doing them will be explained to you by your doctor.

If you are unable to keep an appointment, please notify the Infertility Center at 842-1231, extension 660, and we will arrange for a more suitable time.

Thank you.

1 Infertility Centre,
Royal Victoria Hospital.

Examination of the Husband: A detailed medical history, a complete physical examination and a semen analysis provide a profile of the health and fertility potential of the husband. If further investigation is indicated an urologist may be consulted.

Semen Analysis: At least two days of abstinence from sexual intercourse should precede the day of this examination. You will be provided with a sterile container in which to transport the specimen. It should be obtained not more than one hour prior to the time of the appointment, and should be kept at room temperature.

Examination of the Wife: At the first visit a detailed medical history will be obtained with special attention to regularity of periods, previous pregnancies, history of infection of the genital tract and previous investigation or treatment by other gynecologists. A complete physical examination is also performed.

The basic investigations are briefly described in the following pages with a simple illustration to help you to understand the anatomy of the female genital tract. These tests may produce some discomfort similar to menstrual cramps which is usually temporary and disappears a few minutes after completion of the test.

1. Basal Body Temperature Curve: Ovulation (or the release of an egg from the ovary) normally occurs once a month, fourteen days before the onset of the menstrual period. This is the "fertile period", and conception is possible if sexual intercourse occurs at this time. Immediately following ovulation the body temperature rises slightly due to changes which occur in the ovary following release of the egg.

You will be given a special chart on which to record your temperature daily throughout the cycle. Upon awakening each morning, take your temperature orally and record it; this will help us to know precisely when you ovulate. The chart should be brought with you on each visit to the Infertility Centre.

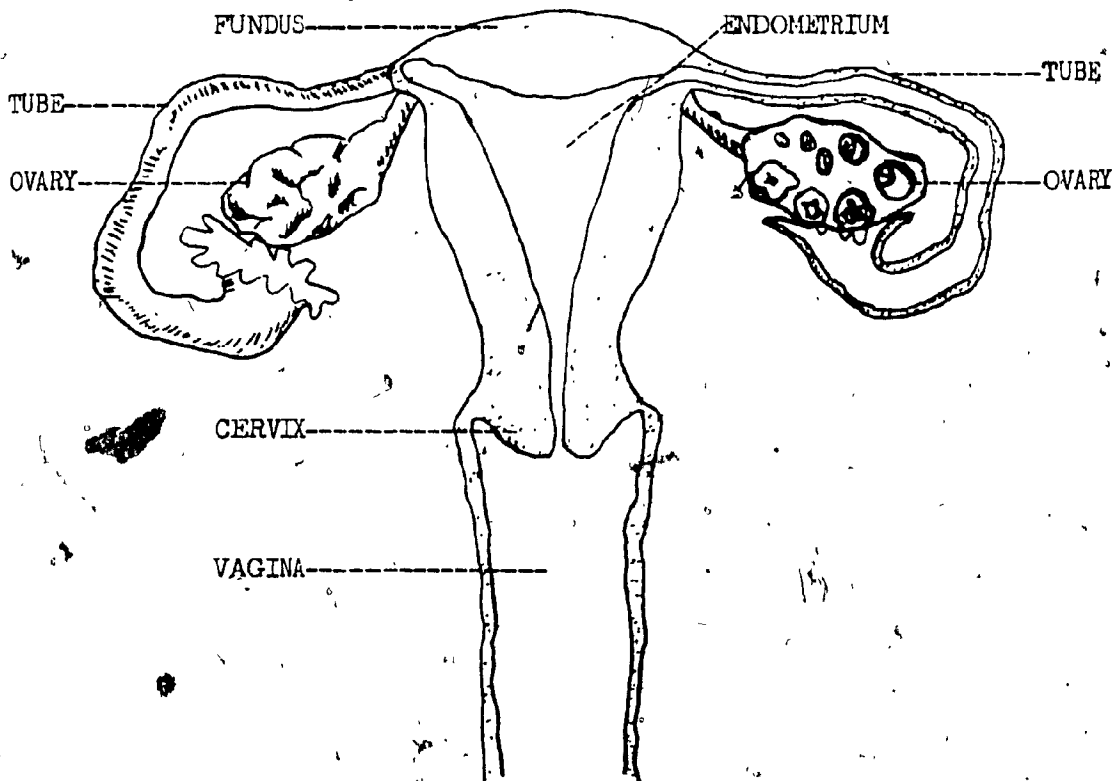
2. Tubal Insufflation: The tubes must be healthy, free of obstructions and mobile in order to catch the egg as it is expelled by the ovary. The sperms fertilize the egg in the tube as it travels toward the uterus. There it implants and grows into a baby.

The tubes may be shown to be open by passing harmless carbon dioxide gas (CO_2) through them. This is done after the period is finished and before the time of ovulation.

3. Hysterosalpingogram: The X-Ray examination is carried out by injecting a radio-opaque solution through the cervix into the uterus and tubes to demonstrate the size and shape of the uterus and the condition and position of the tubes.
4. Endometrial Biopsy: The membrane which lines the uterus is renewed each month. After ovulation occurs, special changes take place in this lining membrane (endometrium) which makes it suitable for nourishment of the fertilized egg. A small piece of this lining is taken at a specific day of your cycle for examination to look for these changes.

5. Post-coital Test (P.K.): During sexual intercourse the seed or spermatozoa of the husband are deposited in the vagina. In order for them to gain access to the egg in the tube they must traverse the cervix and uterus. At the time of ovulation the cervix produces a special kind of mucus which encourages the sperms to enter the uterus.

You will be asked to have sexual intercourse on a specific day of the cycle (the presumed time of ovulation) and come - preferably within six hours after intercourse - to the Infertility Center the following morning. The doctor will obtain a sample of this mucus for examination under the microscope to determine the nature of the mucus and whether it is suitable for sperm survival and transport. Vaginal douches or lubricants should not be used before or after sexual intercourse on the occasion of this test.



ROYAL VICTORIA HOSPITAL
Infertility Centre

Date:
Doctor:
Referred by:

Her DB:

His DB:

N a m e

A g e

Religion

Ethnic Origin

Occupation

Her:

His:

Address:

Tel. res:

Her work:

His work:

Previous Marriage
(duration, pregnancies)

Present Marriage
(duration, pregnancies)

Type & Duration
of birth control

Duration of
Recent exposure

Her:

His:

Family history of wife:

Past history of wife except for obstetrical and gynaecological history:

Special history (financial status, physical and/or emotional stress, alcohol, etc.):

Menstrual history:

Cycle

/ /

Alteration of cycle and flow:

Recent menstrual history:

Premenstrual tension:

Breast tenderness:

Intermenstrual bleeding:

Acne:

Intermenstrual pain:

L. M. P.:

Dysmenorrhoea:

P. M. P.:

Previous Obstetrical History (Start with first and list chronically)

Date

Age of Foetus

Type and Outcome

Previous Gynaecological History (Including Neisserian, Spirochaetal Infection)

Previous Investigation of Infertility:

? W H E N

? W H A T

? W H E R E

Attention to Ovulation Phase (Method)

During period of recent exposure:

Before:

Marital Relations

Libido:

Satisfaction:

Dyspareunia:

Coital difficulties:

Coital technique:

Frequency of intercourse:

PHYSICAL EXAMINATION

Height: Weight: Weight relation to normal:
Build, type: Previous weight range
Skin: Hair distribution Fat distribution:
Breasts:
Stigmata of endocrine disorder (if present describe on reverse side)

Cardiovascular system: pulse B.P.

Respiratory system:

Abdomen:

Central nervous system:

PELVIC EXAMINATION

Vulva:

Vagina:

Introitus Cystocele Rectocele

Discharge Depth

Cervix:

Size Consistency Mobility

Distance from symphysis Direction: Upward
Straight
Downward

Speculum

Cx plug:

Uterus:

Size Consistency Mobility

Position, location Symmetry

Appendages:

Plan for Investigation

SUMMARY (to be filled in after completion of five-year) follow-up or on the completion of pregnancy with delivery of a living baby).

ROYAL VICTORIA HOSPITAL
INFERTILITY CENTRE

M A L E

Name

Age:

Date:

History (Cryptorchism, mumps orchitis, other orchitis, prostatitis, epidididymitis, hydrocele, hernia, varicocoele, genital trauma, tuberculosis of genitalia, operations for any of the aforesaid conditions)

Systemic diseases (virus disease, functional diseases, feverish conditions - high? duration?)

Occupational hazards (lead, heat, radiation, other)

Clothing (tightly fitted, warm underwear),

Personal habits & hobbies - Past & present (sleep, tobacco, diet, alcohol, hobbies)

Personal sex observations (Past marital & extramarital offspring and outcome of them, premature ejaculation, erection difficulty, other potency observation, etc.)

PHYSICAL EXAMINATION

Weight

Height

Build

Type

B.P.

Specific bodily defect/ endocrine stigmata

Penis

Phimosis

Hypospadias: coronal
postcoronal

Other defect

Epididymis

Left _____ Right _____

Varicocele (large small lt. rt.)

Hydrocele (large small lt. rt.)

Other abnormality

Prostate

Large

small

Hard

Soft

Other

Smear (W.B.C., Sperm, Other):

Urine (Alb., Sugar, Other):

Testes

Left: _____ x _____ cm.

Right: _____ x _____ cm.

Cryptorch. uni _____ bilat. _____

Atrophy uni _____ bilat. _____

Hypoplastic uni _____ bilat. _____

One absent

Tumor

Other

Summary & Recommendation:

M.D.

GYNECOLOGICAL SUMMARY

RACE: ☒ White ☐ Negro ☐ Oriental ☐ Mediterranean ☐ Other

PREGNANCIES:

Total Pregnancies _____
 Term Pregnancies _____
 Abortions: (under 500 gm.) _____
 Fetal deaths (over 500 gm.) _____
 Neonatal deaths _____
 Premature deliveries _____
 Living children _____
 Pregnant at present _____

MENSTRUAL HISTORY: Date 1st Day Last Menses:

Age of Onset _____ Internal (days) _____ Duration _____

FLOW: Normal _____ Scanty _____ Excessive _____

Dysmenorrhea _____ Type _____

Molimina _____ Type _____

Amenorrhea: Primary _____ Secondary _____ Endocrine _____

Infertility: Primary _____ Secondary _____

WENOPAUSE: Age at Onset _____

Normal _____ Surgical _____ Radiation _____

PAST ADMISSIONS: Surgical or Gynecological

R. V. H.

Other

Date

Diagnosis

Procedure

PAST ILLNESSES and/or COMPLICATIONS OF PREGNANCY:

Date

Diagnosis

Procedure

FAMILY HISTORY: Diabetes _____ Carcinoma _____ Tbc _____ Site _____

Anomalies _____ Site _____ Other signif. illness _____

CONCURRENT ILLNESSES OTHER THAN GYNECOLOGY: Treatment:

Diagnosis

PRESENTING COMPLAINT AND FUNCTIONAL INQUIRY: Specify positive findings only

Neg Pos.

Type

Duration

Pain

Abnormal Menses

Vaginal bleeding
(non-menstrual)

Other bleeding

Vaginal discharge

Pruritus

Tumour, Abdominal

Tumour, Vulvo-Vaginal

Vaginal Protrusion

Lesion of vulva

Urinary incontinence

Other urinary symptoms

Upper G. U. symptoms

Lower G. U. symptoms

HEAD

C. V. S.

G. I.

OTHER SYSTEMS

GENERAL PHYSICAL EXAMINATION:

Blood Pressure _____ Pulse _____ Temperature _____ Weight _____
 _____ Normal Abnormal _____

HEAD
 Ears, nose _____
 Throat _____
 LUNGS _____
 HEART _____
 BREASTS _____
 OTHER GLAND(S) _____
 ABDOMEN _____
 EXTREMITIES _____
 OTHER _____
 URINE _____
 BLOOD _____

PELVIC EXAMINATION:

Specify abnormalities

On admission

On discharge

VULVA _____
 VAGINA _____
 CERVIX _____
 UTERUS _____
 ADNEXA _____
 RECTAL _____ Abdomen (wound) _____

DIAGNOSTIC IMPRESSION:

signature of clinical clerk

PLAN OF INVESTIGATIONS:

THERAPY: i.e. medications, blood transfusions Oxygen Special investigations

OPERATION(S): Date _____ Include those of other services _____ Type _____

POST-OPERATIVE: Medications.

Physiotherapy _____ Fever _____ Hemorrhage _____ GU tract invest. _____ Other _____

FINAL DIAGNOSIS: For accuracy - See Pathology report. List concurrent diagnoses

DISCHARGED: Date _____ Condition on Discharge Cured _____ Improved _____ Unchanged _____

Died _____ Convalescent Home _____ Transferred _____ Released against advice _____

INSTRUCTIONS & MEDICATIONS ON DISCHARGE:

signature of Resident in charge

SUMMARY SENT TO:

Referring Physician

Address

Signature of Attending Physician

ROYAL VICTORIA HOSPITAL
Infertility Center

SCREENING AND SELECTION OF PATIENTS

All of the following categories of patients should understand that full agreement of both the wife and the husband is prerequisite to their acceptability as patients of the Infertility Center and they must share a serious desire to raise a family.

1. Married patients up to 30 years of age may be referred to the Infertility Center after full exposure to pregnancy for at least one year. In the meantime treatment of minor gynaecological conditions should be initiated and the patients should be instructed regarding the timing of ovulation.

In the following four instances referral may be made immediately unless the condition of the patients requires direct hospitalization to a gynecology service (P.I.D., Tumor etc.).
 - a. History suggestive of habitual abortion.
 - b. Obvious endocrine disorder, particularly with history of persistent menstrual disorder dating back into premarital life.
 - d. History of surgical or gynecological operation with post-operative complications (peritonitis, etc.) likely to produce occlusion of tubes and/or fixed displacement of any of the internal genital organs.
2. Married patients, 31-40 years of age inclusive, should be referred directly and arrangements made to attend the Infertility Center at the earliest possible time provided no gross gynecological pathology is present. No treatment of gynaecological disorders should be initiated since this will be done concomitantly with the course of infertility investigation.
3. Married patients 41 years of age and over should be referred to the Infertility Center only under special circumstances, such as:
 - a. Secondary infertility, particularly with history of recent pregnancy or pregnancies.
 - b. Second marriage of either partner.
 - c. The couple insisting on a trial despite advice regarding the unlikelihood of success.
4. Unmarried patients of pubertal or post-pubertal age with severe menstrual dysfunction such as primary or secondary amenorrhea or severe oligomenorrhea (with or without overt endocrinopathy) may be referred immediately to the Infertility Center for investigation and treatment.

For all appointments please call: 842-1251, extension 660.

Previous clinical or laboratory examination results would be appreciated and may be submitted on a regular consultation form.

BIBLIOGRAPHY

- Abdelmassih, R.,
Stevanato, L.,
Nakamura, M.S. Psychosomatic Evaluation of Male Factor in Conjugal Sterility Fertility/Sterility V28 N3 Pg. 971, 1977
- Aitkin-Swan, J. & Patterson, R. The Cancer Patient: Delay in Seeking Advice British Medical Journal 1:623, 1955
- Aldous, J.G. The Uncontrolled Variable Clinical Pharmacology Therapy 5 263 - 264, 1964
- Allport, G.W. "Scientific Models and Human Morals" in Personality and Social Encounter Boston, Chapter IV Beacon Press, 1960
- Andersen, R. "A Behavioral Model of Families' Use of Health Services" Chicago: Research Series 25, 1968
- Anderson, J.G. Causal Models and Social Indicators: Toward the Development of Social Systems Models American Sociological Review 38: 285 - 301, 1973
- Antonovsky, A. "A Model to Explain Visits to the Doctor". Journal of Health and Social Behavior 13: 446-54, 1972
- Apple, D. How Laymen Define Illness. Journal of Health and Human Behavior. 219 - 225, Fall 1960
- Arronet, G.H. and Smith, N.E. Suggestions for the Organization of an Infertility Center. Fertility/Sterility 14:1, 1963
- Auld, Frank Jr. and Myers, Jerome K. "Contributions to a Theory for Selecting Psychotherapy Patients" Journal of Clinical Psychology 10: 56 - 60, 1954
- Balint, E. A Study of the Doctor-Patient Relationship Using Randomly Selected Cases Journal Royal College Gen. Pract. 13: 163 - 73, 1967
- Bayer, L. "Potential Infertility in Young Women" Fertility and Sterility 5: 461 - 467, 1954

- Baziak, A.T. "The Language of the Hospital and its Effect on the Patient" in Social Interaction and Patient Care ed. J.K. Skipper and R.C. Leonard, Montreal
- Beadle, G. and Beadle, H. The Language of Life New York Doubleday, 1966
- Becker, M.H. The Health Belief Model and Personal Health Behavior Slack Thorofare N.J., 1974
- Behrman, S.J. Progress in Infertility. Little, Brown and Co., 1975
and Kistner, R.W.
- Benedek, T. Parenthood as a Developmental Phase Journal American Psychoanalytic Association 7: 389, 1959
- Benedek, T. Some Emotional Factors in Infertility Psychosomatic Har, G.C. et al Medicine, 14: 484, 1953
- Benedek, Therese "Infertility as a Psychosomatic Defense", Fertility/Sterility 3: 527 - 541, 1952
- Bertrand, A.L. "Lay Knowledge and Opinion about Heart Disease"
and Storea, C.A. Louisiana Heart Association Publication, 1965
- Blake, J. Population Policy for Americans: Is the Government being Misled? Science 164: 522, 1969
- Blum, Richard H. The Management of the Doctor-Patient Relationship New York: McGraw-Hill, 1960
- Boh, M.J. Therapist Responses to Hostility and Dependency as a Function of Training. Journal Cons. Psychology 31 195 - 198, 1967
- Bonham, G.S. Who Adopts? Journal of Marriage and the Family, 39.2 May 295 - 306, 1977
- Bos & Kleghorn Psychogenic Sterility, Fertility/Sterility V9 pg. 95 1958
- Branch, C.H. The Patient Must Prescribe for the Physician. Mental Hygiene 53, 403 - 409, 1969
- Bright, Margaret L. "Health Resources and Their Use by Rural People"
and Hay, Donald G. Cornell University Rural Sociology, Bulletin 32 1952

- Brotsky, C.M. Medical Roles in Family Treatment. Psychosomatics
227 - 34, 1967
- Broom, L. Sociology: A Text with Adapted Readings. Pg. 203 - 242
Selznick, P. Evanston, Ill., Peterson and Co., 1955
- Brown, R.C. "The Dual Responsibility in the Infertile Marriage"
The Practitioner, 169: 115 - 120, 1952
- Bucklin, M.F. "Patient's Understanding of Written Health Information"
Nursing Research 13: 100 - 108, 1964
- Bullock, J.L. Iatrogenic Impotence in an Infertility Centre. American
Journal Obstetricians & Gynecologists, 120: 476, 1974
- Buxton, C.L. Human Infertility. New York, Paul B. Hoeber Inc., 1958
and A. Southam
- Calef, V. Hostility of Parents to Children - Some Notes on Infertility,
Child Abuse and Abortion. International Journal of
Psychoanalytic Psychotherapy VI N1 pg. 76 - 96, 1972
- Caramazza, A. Linguistic Theory and Psych. Structures Johns Hopkins
University, 1973
- Carkhuff, R.R. Differential Aspects of Therapist Race and Social Class
upon Depth of Self-Exploration. Journal Cons.
Pierce, R. Psychology 31 632 - 4, 1967
- Carr. G.G. A Psychosocial Study of Fertile and Infertile Marriages
Unpublished Doctoral Dissertation, University Southern
California, Los Angeles, 1963
- Carr-Saunders, A.M. The Professions Oxford The Clarendon Press, 1933
and Wilson, P.A.
- Cartwright, A. Human Relations and Hospital Care. London Routledge
and Paul, 1970
- Chester, R. Is There a Relationship Between Childlessness and Marriage
Breakdown. Journal of Biosocial Science 4, 4, Oct. 443 -
454, 1972

- Christman, L.P. "Patient-Physician Communication" Journal of the American Medical Association, 194: 151 - 6, 1965
- Clausen, J.A. ✓ "The Impact of Illness on the Family". Journal of Yarrow, M.R. Social Issues, VII, 1955
- Clausen, J.A. "Paths to the Mental Hospital". Journal of Social Yarrow, M.R. Issues, 7: 25 - 32, 1955
- Cobb, S. Machines, Medicine & Morals. American Journal of Psychiatry 121, 1212 - 13, 1965
- Coe, R.M. "Social-Psychological Factors Influencing use of Health and Wessen, A.F. Resources". American Journal of Public Health, 55: 1024 - 31, 1965
- Cooley, C.H. ✓ Social Organization. New York, Charles Scribner, Chapters 3 & 28, 1909
- Cooley, Donald G. The Science Book of Modern Medicine. New York, F. Watts, Pg. 53 - 66, 1963
- Croog, S.H. "The Heart Patient and the Recovery Process"
Levine, S. and Lurie, Z. Social Science and Medicine; 111 - 64, June 1968
- Davis, M. "A Sociological Evaluation of the Watts and Tranguada, R.E. Neighborhood Health Centre". Medical Care, 7 pg. 105 - 117, March 1969
- Davis, M. Discharge from Hospital Against Medical Advice
Von der Lippe, R. A Study of Reciprocity in the Doctor-Patient Relationship. Social Science and Medicine, 1 336 - 344, 1967
- Davis, M.S. Variations in Patient's Compliance with Doctor's Advice ✓
American Journal of Public Health 58, 274 - 88, 1968
- Davis, M.S. "Variations in Patient's Compliance with Doctor's Orders"
Journal of Medical Education, 41: 1037 - 48, 1966
- Decker, A. Psychogenic Infertility: Fact or Fiction. Medical Aspects of Human Sexuality, Jan. Val. 6-(1) 168 - 175, 1972

Denker, H.C.B. Effect of Tybamate of Psychosomatic Systems in a Group
Roland, M. in a Group of Infertility Patients. Fertility/Sterility
20: 373, 1969

De Wachter "Interdisciplinary Teamwork" Journal of Medical Ethics
2: 52 - 57, 1976

De Watteville, H. Psychologic Factors in the Treatment of Sterility
Fertility/Sterility 8: 12, 1957

Diddle, A.W. et al Fertility in Women: The Length of Time Required to
Conceive. American Journal of Obstetrics and
Gynecology pg. 57 V 54, 1947

Dotson, Floyd "Patterns of Voluntary Association Among Urban Working
Class Families", American Sociological Review, 16: 687
- 693, 1951

Dunne, D.E. Psychological Factors Relating to Infertility
Dissertation Abstracts International, May Vol 36 (11-A)
7288, 1976

Egbert, L.D. "Reduction of Post-Operative Pain by Encouragement
Batlet, G.E. and Instructions of Patients: A study of Doctor-
Welch, O.E. Patient Relationships". New England Journal of
Bartlett, M.K. Medicine, 270 825 - 27, April 1964

Eisher, B.G. Some Psychological Differences Between Fertile and
Infertile Women. Journal of Clinical Psychology 19: 391
RC 321 J74, 1963

Elkhanan, Lahar Methodological Problems in Behavioral Research on
Disease. Journal of Chronic Diseases 20, pg. 333 - 40
May 1967

Elkinton, J.R. Life and Death & The Physician. Ann. Internal Medicine
67, 669, 1967

Evans, A.S. "The Research-Oriented Single Name Follow-Up
and Wesslet, M.M. Interview: Its Validity and Effectiveness as
a Methodological Tool". Journal of Health & Human
Behavior, 214 - 17, Fall 1963

Fischer, J.C. "Psychogenic Aspect of Sterility". Fertility/Sterility
4: 466 - 471, 1953

Fisher, T.L. Kindliness. Canadian Medical Association J. 97:1020 -
1021/97, 1967

Fitzpatrick, T.B. "Character and Effectiveness of Hospital Use"
Hospital and Medical Economics, pg. 361 - 391
1962

Flapan, M. Procedures for Exploring Women's Childbearing Motivation
Schoenfeld, N. American Journal of Orthopsychiatry, Apr. Vol. 42(3)
389 - 397, 1972

Ford, E.S.C. et al "A Psychodynamic Approach to the Study of Infertility"
Fertility/Sterility, 4: 456 - 465, 1953

Fox, T. Whose Patient?. Australian Ann. Med. 12, 189 - 91, 1963

Fox, T.F. The Personal Doctor. Lancet I, . 743, 1959

Freedman, H.E. Social Research and Social Policy. Englewood
and Sherwood, C.C. Cliffs, N.J., Prentice-Hall Inc., 1969

Freedman, R. "Growth of American Families". Milbank Memorial Fund
and R.K. Whelpton Quarterly, 26: 182, 1948

Freidson, E. Client Control and Medical Practice. American Journal of
Sociology, 65 374 - 384, 1960

Gilliam, S. "The Study of Patterns of People Seeking Medical Care"
Medical Research of New York City, 1961

Glaser Barney C. Awareness of Dying. Chicago. Aldine, 1965
Strauss Anselm

Goss, M.E.W. Influence and Authority Among Physicians in an Outpatient
Clinic. American Sociological Review, 26: 30 - 50, 1961

Gozzi, E.K. "Gaps in Doctor-Patient Communication". American
Morris, M.J. Journal of Nursing, 69: 529 - 33, 1969
and Korsch, B.M.

- Gray, B.H. Human Subjects in Medical Experimentation: A Sociological Study of the Conduct and Regulation of Clinical Research New York, John Wiley & Sons Inc., 1975
- Greenlick, M. et al "Determinants of Medical Care Utilization" Journal of Health Services Research, 3: 296 - 315 1968
- Grimm, E.R. Psychological Investigation of Habitual Abortion. Psychosomatic Medicine 24: 369, 1962
- Gurin, G. et al Americans View Their Health. Basic Books, New York 1960
- Haberman, P.W. The Reliability and Validity of the Data. Poverty and Health, Cambridge, Harvard University Press 1969
- Hall, Oswald "The Stages of a Medical Career". American Journal of Sociology, 53: 327 - 336, 1948
- Harkauy, O. Family Planning & Public Policy. Science 165: 367, 1969
Jaffe, S.
- Hassinger, E.W. Relationship of Public to Physician. University of and McNamara, R.L. Missouri College Press, Columbia, Missouri, 1960
- Henderson, L.J. "Physician and Patient as a Social System". New England Journal of Medicine, 212: 819 - 823, 1935
- Henkle, L.E. Ecologic Investigations. American Journal of Internal and Wolff, H. Medicine, V 48 1373, 1958
- Henkle, L.E. The Doctor, His Patient and the Environment. American Journal of Public Health, 54 11-17, 1964
- Henry, L. "Fertility According to Size of Family". Population Bulletin 4: 8, 1954
- Henry, William E. "The Business Executive: The Psychodynamics of a Social Role". American Journal of Sociology, 54: 286 - 291, 1949
- Hertz, D.G. Psychosomatic Aspects of Induced Ovulation.
Schneidman, G. Psychosomatics, Vol. 25 (3) 109 - 112, 1974

Minta, J. Dying. Penguin Books, 1967

Horman, P.B. and Rockart, J.F. "Implications of the No-Show Rate for Scheduling Out-Patient Departments". Hospital Progress, 50: 35 - 40, 1969.

Hollingshead, August B. and Redlich, Fritz C. "Schizophrenia and Social Structure" American Journal of Psychiatry, 110: 695 - 701 1954

Hollingshead, August B. and Redlich, Fritz C. "Social Class and Mental Illness". New York: John Wiley and Sons, 1957

Hollingshead, August B. and Redlich, Fritz C. Social Stratification and Psychiatric Disorders American Sociological Review, 18: 163 - 9, 1953

Hollingsworth, Lita S. "Social Services for Compelling Women to Bear and Rear Children", American Journal of Sociology, 1916

Holzinger, Dare J. and Harman, Henry J. Factor Analysis: A Synthesis of Factorial Methods Chicago, Univeristy of Chicago Press, 1941

Homans, George C. The Human Group. New York, Harcourt, Brace and Co. 1950

Hommel, A. Psychosexual and Cultural Determinants of Fertility Choice Behavior. American Journal of Psychiatry, 132: 750, 1975

Horne, H.W. Jr. "Therapeutic Results in Infertility: An Analysis of 1200 Infertile Couples", Obstetrics and Gynecology, 10: 202 1957

Howie, J. Professional Virtues, British Medical Journal 3, 73 - 75, 1969

Hughes, Everett C. "Dilemmas and Contradictions of Status". American Journal of Sociology, 50: 353 - 359, 1945

Hyman, H.H. et al Interviewing in Social Research. University of Chicago Press, 1954

Jacobson, E. "A Case of Sterility" Psychoanalytic Quarterly, 15: 330 - 350, 1946

- Jeffcoate, T.N.A. "Management of Infertility". American Journal of Obstetrics and Gynecology, 61: 181 - 85, 1954
- Jenkle, L.E. "Ecologic Investigations". American Journal of Internal Medicine, 49: 1373, 1958
- Jones, G.D. "An Evaluation of Etiologic Factors and Therapy in 500 and Pourmand, K. Patients". Fertility and Sterility, 13: 398, 1962
- Kalimo, E. "Determinants of Medical Care Utilization". Research Institute for Social Security, Helinski, 1969
- Kane, R.L. Problems in Patient-Doctor Communication. Medical and Deuschle, K.W. Care, 5: 260-1, 1967
- Karahasanoglu, A. Psychological Aspects of Infertility. Journal of Reproductive Medicine, 9: 241, 1972
- Karlovsky, E.D. "Clinical Studies in Infertility". Yale Journal of and Thoms, H. Biology and Medicine, 25: 405 - 417, 1953
- Kase, S.V. "Health Behavior, Illness Behavior and Sick-Role Behavior" and Cobb, S. Archives of Environmental Health, 12: 246 - 66, 1966
- Kaufman, S.A. Impact of Infertility on the Marital and Sexual Relationships. Fertility/Sterility, 20: 380, 1969
- Kerr, M.G. Simulated Patients as a Learning Resource in the Study of Reproductive Medicine, Medical Education, 11(6), 374 - 6, November 1977
- Templeton, A.A. Parbossingh
- Kimmich, R.A. "The Patient's Motivation as a Medical Tool". Hawaii Medical Journal, 14: 142, 1954
- Kises, Clyde Psychological Factors in Infertility - A Demographic Appraisal, Milbank Memorial N.Y., Journal of Indian Medical Profession, 11, 3, Jun. 4492 - 4929, 1964
- Kistner, R.W. "The Infertile Woman". American Journal of Nursing Pg. 1937 - 43, Nov. 1973
- Koss, Earl L. Health in Regionville. New York, Columbia University Press, 1954
- Korsch, B.M. "Doctor-Patient Communication". Scientific American and Negrete, V.F. 227: 66 - 74

- Krech, David and Crutchfield, Richard S. Theory and Problems of Social Psychology. New York, McGraw-Hill Book Co., 1948
- Kroger, W.D. "Evaluation of Personality Factors in the Treatment of Infertility". Fertility/Sterility, 3: 542 - 553, 1952
- Kudashin, C. Individual Decisions to Undertake Psychotherapy. Administrative Science Quarterly, 3: 379 - 411, 1958
- Lamb, E.J. Prognosis for Infertile Couples. Fertility/Sterility V 23 No. 5, Pg. 320, May 1972
- Lambert, Camille and Freeman, H.E. The Clinic Habit. New Haven Conn., College and University Press, 1967
- Lasagna, L. The Doctor and the Dying Patient. Journal of Chronic Disease 22, 65 - 68, 1969
- Lasagna, L. et al "A Study of the Placebo Response". American Journal of Medicine, 15, 770 - 779
- Lee, Alfred McClung The Social Dynamics of the Psychian Status Psychiatry, 7: 371 - 377, 1944
- Lemert, E.M. Social Pathology, New York, McGraw Hill, 1951
- Lenton, E.A. Long Term Follow-Up of Apparently Normal Couple with a Complaint of Infertility. Fertility/Sterility V28 N 9
Weston, G.A. pg. 913 - 19, 1977
Cooke, I.D.
- Leridon, H. Estimate of Sterility Population V32 NS1 pg. 231 - 48
1977
- Levine, Gene. N. "Anxiety about Illness: Psychological and Social Bases" Journal of Health and Human Behavior, 3: 30 - 4
Spring 1962
- Lowinger, P. and Dowbie, S. Psychiatrist as a Variable in the Process of Interview and Treatment. Comprehensive Psychiatrist 9, 627 - 632, 1968
- Ludwig, E.G. and Gibson, G. "Self-Perception of Sickness and the Seeking of Medical Care". Journal of Health and Social Behavior 10: 125 - 33, June 1968

- Lundberg, G.A. Social Research. New York, Longmans, Green & co.
1942
- MacLeod, A.W. Some Psychogenic Aspects of Infertility.
Fertility/Sterility, 15: 125, 1964
- MacLeod, J. "Correlation of the Male and Female Factors in Human
and Gold, R.Z. Infertility". Fertility/Sterility, 4: 10 - 33, 1953
- Mai, F.M. Psychiatric Interview Comparisons between Infertile and
Munday, R.N. Fertile Couples, Psychosomatic Medicine 1972
Rump, E.E. Vol. 34(5) 431 - 440, 1972.
- Mai, F.M. Psychosomatic and Behavioral Mechanisms in Psychogenic
Munday, R.N. Infertility. British Journal of Psychiatry V120
Rump, E.E. N555 pg. 199 1972
- Mai, F. Are Infertile Men and Women Neurotic?. Australian Journal
Rump, E.E. of Psychology; Vol. 24(1) 83 - 86, 1972
- Mai, F.M. Interesting Sexual Cases. Medical Aspects of Human Sexuality
July Vol. 5 (7) 26-32, 1972
- Malinowski, Bronislaw A Scientific theory of Culture and Other Essays
Chapel Hill, University of Northern Carolina
Press, 1944
- Marback, A.H. "Psychosomatic Aspects of Infertility". Obstetrics
and Schinfeld, L.H. and Gynecology, 2: 433 - 441, 1953
- Marinber, M.L. The General Practitioner as a Family Doctor, Journal of
Chronic Diseases 17, 227 - 236, 1962
- Marsh, E.M. "Possible Psychogenic Aspects of Infertility"
and Valmer, A.M. Fertility/Sterility, 2: 70 - 79, 1951
- Marshall, R.N. Psychological Aspects of Infertility in Marital Pairs:
A Comparative Study. Dissertation Abstracts 1967 28(4-B)
1695 - 1696, 1967
- Mastroianni, Luigi Jr. "The Causes and Treatment of Infertility"
Connecticut State Medical Journal, 21: 332- 338
1957

- McGhee, A. The Patient's View of Nursing Care. Edinburgh, Livingstone 1961
- Mechanic, D. "Stress, Illness and Behavior". American Sociological Review, 26: 51, 1961
- Mehning, Barbara E. "Resolve - A support Group for Infertile Couples" American Journal of Nursing, Pg. 258 - 9, Nov. 1976
- Merton, R.K. The Focused Interview. New York, Bureau of Applied Social Research, Columbia University, 1952
- Fiske, M. and Kendall, P.
- Merton, Robert K. Social Theory and Social Structure. Glencoe, Ill. The Free Press, pp. 21 - 195, 1949
- Myers, Jerome K. "Some Variables Related to the Outcome of Psychotherapy". Journal of Clinical Psychology 11: 51-54, 1955
- and Auld, Frank Jr.
- Myers, R.S. Quality of Patient Care. Journal of Medical Education 36: 776 - 84, 1961
- New, Peter Kong-Ming "The Support Structure of Heart and Stroke Patients: A Study of the Role of Significant Others in Patient Rehabilitation", Social Science and Medicine, Vol. 12, pg 86-94, 1964
- Newcomb, T.M. "An Approach to the Study of Communicative Acts" Psychological Review, 60: 393 - 404, 1963
- Newton, John The Changing Pattern of A Comprehensive Infertility Clinic. Journal of Biosocial Science, Oct. 477-482
- Sue, Craig and David, Joyce 1974, 6, 4
- Opler, M.K. Culture and Mental Health. MacMillan, New York, 1959
- Palti, Z. Psychogenic Male Infertility, Psychosomatic Medicine 31(4) 326-330, 1969
- Parsons, Talcott "Illness and the Role of the Physician". American Journal of Orthopsychiatry, 21: 542-580, 1951
- Parsons, Talcott "Professions and the Social Structure". Social Forces 17: 457-467, 1939

- Pathak, K.B. Model for Estimating Adolescent Sterility among Married
Prasad, C.V.S. Women, Demography V14 pg. 103,04, 1977
- Pennington, G.W. Some Surprising Results in the Investigation and
Atlay, R.D. Treatment of the Infertile Woman. Journal Obstetrics
and Gynecologists Br. Commonwealth, 79: 651, 1972
- Picken, B. "Family Patterns of Medical Utilization: Possible
and Ireland, G. Influences of Family Size, Role and Social Class"
Journal of Chronic Disease, 22: 181-91, August 1969
- Pittenge, D.B. Exponential Model of Female Sterility. Demography V10 N1
V10 N1 pg. 113-121, 1973
- Plaja, A.O. Communications Between Physicians and Patients in
Cohen, Lucy Outpatient Clinics: Social and Cultural Factors
and Samora, J. Millbank Memorial Fund Quarterly, Part 1 46, 161 - 213
April 1968
- Platt, J. Infertile Couples: Personality Traits and Self-Ideal
Fischer, I. Concept Discrepancies. Fertility/Sterility, 24: 972,
Silver, M.J. 1973
- Pohlman, E. Childlessness, Intentional and Unintentional. Journal
Nervous Mental Disorders, 151: 2, 1970
- Pratt, Lois "How do Patients Learn About Disease?". Social Problems
4: 29 - 40, 1956
- Porter, R.G. Predicting the Time Required to Conceive. Population
and Parker, M.P. Studies Vol. 28 No. 8, 1964
- Potter, R.G. and "Social Factors Affecting Sterility", Millbank
Kanter, J.F. Memorial Fund Quarterly, 32: 246 - 267, 1955
- Poulson, A.M. Obstetric Complications of Infertility Patient
Bryner, W.A. Obstetrics and Gynecology V49, N2, pg. 174 - 79,
1968
- Quint, J.C. "Communication Problems". Journal of the American Medical
Association, 195: 126-7, 1966
- Rakoff, A.E. The Infertility History and Its Evaluation. Journal of
Reproductive Medicine, 18(3) 114 - 8, March 1977

- Raymont, A. Review of 500 Cases of Infertility. International
Arronet, G.N. Journal of Fertility, April-June, Vol. 14, no. 2, pg.
Arrata, W.S. 141-53, 1969
- Reader, G.G. "What Patients Expect from their Doctors". Modern Hospital
Pratt, L. 89:88, 1957
Mudd, M.C.,
- Richardson, I.A. A Comparative Study of Personality Characteristics of
Functionally Infertile and Fertile Women, Dissertation
Abstracts International. Dec. Vol. 33(6-A) 2772-3,
1972
- Ridley, J.C. et al On the Apparent Sub-Fecundity of Non-Family Planners
Social Biology, 15, 1 Mar. 24 - 28, 1969
- Robinson, G.C. The Patient as a Person. New York, Commonwealth Fund
1939
- Rock, J. "Investigation and Treatment of Infertility". Medical Clinics
of North America, 32: 1171 - 1193, 1948
- Rocker, I. Evaluation of the Effectiveness of the Infertility Clinic
Fertility/Sterility, VI6 pg. 531, 1965
- Rogers, E.S. Public Health Asks of Sociology, Science, 159: 506 - 508
1968
- Rome, H.P. "The Difficult Patient". Journal of the Iowa Medical
Society, 45: 1 - 4, 1955
- Rosen, G. The Specialization of Medicine. New York, Froben Press
1944
- Rosengren, William R. "Social Sources of Pregnancy as Illness or
Normality". Social Forces, 260-7, V 39, 1961.
- Rosengren, William R. "The Sick Role in Pregnancy". Journal of Health
and Human Behavior, 213 - 219, Fall 1962
- Rosenstock, I.M. "What Research In Motivation Suggests for Public
Health", Public Health, 50: 295 - 302, 1960
- Rothman, D. Psychosomatic Infertility. American Journal of Obstetrics
Kaplan, A.H. and Gynecology, 8:373, 1962

- Rubenstein, B.B. An Emotional Factor in Infertility.
Fertility/Sterility 2: 80, 1951
- Rutherford, Robert N. "The Formation of a Private-Office Fertility
and Banks, Lawrence A. Clinic". Fertility/Sterility, 6: 422 - 431
1955
- Ryder, N.B. The Specification of Fertility Planning Status. Family
Planning Perspective, Journal of Social Science and
Medicine, 8(6) 283 - 90, 1976
- Salon, Jerry A. "Patterns of Medical Care: Validity of Interview
Information on Use of Hosptial Clinics". Journal of
Health and Human Behavior, 3: 21 - 30 Spring 1962
- Samora, J. Medical Vocubalary Knowledge Among Hosptial Patients
Saunders, L. Journal fo Health and Human Behavior 2, pg. 93 - 105
and Larson, R. Summer 1961
- Sampson, H. et al "Family Proceses and Becoming a Mental Patient"
American Journal of Sociology, 68: 88-96, 1962
- Sandler, B. Emotional Stress and Infertility. Journal of Psychosomatic
Research; 12: 51, 1968
- Sandler, B.J. Infertility of Emotional Origin. Journal of Obstetrics
and Gynecology of the British Commonwealth, 68: 809
1961
- Saunders, Lyle Cultural Differences and Medical Care. New York, Russel
Sage Foundation, 1954
- Schwartz, C. Perspectives on Deviance: Wives Definition of thier
Husband's Mental Illness, Psychiatry; 20: 275-91, 1957
- Selznick, Philip "Foundations of the Theory of Organization". American
Sociological Review, 13: 25-35, 1948
- Seward, G.H. et al The Question of Psychophysislic Infertility: Some
Negative Answers. Psychosomatic Medicine, 21: 151
1967

Sheps, C.G. Needed Research in Health and Medical Care. University
Taylor, E.E. of North Carolina Press, 194 - 199 pg., 1954

Sherif, M. "Judgmental Phenomenon and Scales of Attitude
and Howland, C.J. Measurement". Journal of Abnormal and Social
Psychology, 135 - 41, 1953

Simmons, L.W. Social Science in Medicine. New York. Russel Sage
Wolff, H.G. Foundation, pg. 170 - 193, 1954

Simmons, F.A. Failure of Conception in 100 Completely Studied Couples
Taymor, M.L. Fertility/Sterility, 6: 320, 1955

Skipper, J.K. "Communication and the Patient", in Social Intraction &
Medical Care, J.K. Skipper & R.C. Leonard, pg. 61 - 82
Montreal 1972

Sloan, W.R. "Infertility in Northern Ireland". Obstetrics and
Gynaecology of the British Commonwealth, 71: 404, 1964

Southam, A.L. Factors Influencing Reproductive Potential. Fertility/
and Buxton, C.L. Sterility, V.8, pg. 25, 1957

Southoukl J. et al Marital Sterility - Etiological Study and
 Therapeutic Results. Revue Francaise de Gyn. et
Obst. V. 71, n. 2 pg. 79 - 89 1976

Speigel, J.P. "Some Cultural Aspects of Transference" in Individual and
Family Dynamics, Masserman, J.G., Gerune and Stratton
1959

Speigel, J. "The Family of the Psychiatric Patient" in American
and Bell, N.W. Handbook of Psychiatry, ed. by Arietti V.1 pg. 114
Basic Books, N.Y., 1960

Stanton, A.H. The Mental Hospital. New York, Basic Books, 1954
Schwartz, M.S.

Starfield, B. Health Services Research: A Working Model. New England
Journal of Medicine, 289: 132-136, 1973

Steiger, W.A. Patient's Needs and Physician Role. Arch. Environ. Health
18, 806 - 810, 1959

- Steiger, W.A. Patient's Needs and Physician Role. Arch. Environ. Health 18, 806 - 810, 1959
- Stern, A. "Ambivalence and Conception". Fertility/Sterility 4: 210-217, 1953
- Stix, Regine K. Controlled Fertility. Baltimore, Williams and Notestein, Frank W. and Wilkins, 1940
- Stoeckle, J. On Going to See the Doctor: The Contribution of the
Zola, I.K. Patient to the Decision to Seek Medical Aid
Davidson, G. Journal of Chronic Diseases 16, 975-89, 1963
- Stoeckle, J. "The Communication of Aggrieved Feelings in Initial
and Davidson, G. Visits to a Medical Clinic". Mass General Hospital Publications, Boston, 1962
- Stone, A. Factors Responsible for Pregnancy in 500 Infertility
Ward, M.E. Cases.. Fertility/Sterility, 7: 1, 1956
- Straker, M. Psychiatric Aspects of Sterility, Psychosomatic 4: 150, 1963
- Straus, Robert The Nature and Status of Medical Sociology, American Sociological Review, 22: 200-4, April 1957
- Sturgis, Somers H. "The Challenge of Comprehensive Gynecology". American Journal of Obstetrics and Gynecology, 73: 180 - 189, 1957
- Suchman, E.A. Evaluative Research, New York, Russel Sage Foundation 1967
- Suchman, Edward A. "Sociomedical Variations among Ethnic Groups" American Journal of Sociology, 319-31, Nov. 1964
- Suchman, E. "Health Orientation and Medical Care" . American Journal of Public Health, 45: 47 - 105, 1966

- Summer, William G. Folkways: A Study of the Sociological Importance of Usages, etc.. Boston: Ginn and Co., 1907
- Swackhamer, Gladys Choice and Change of Doctors, New York: Committee on Research in Medical Economics, 1939
- Swyler, G.I.M. "Outcome of Pregnancy in Women Attending an Infertility Clinic". Fertility/Sterility, 4: 416 1953
- Thurston, L.L. The Measurement of Attitude. Chicago, University and Chave, E.J. of Chicago Press, 1929
- Tietze, C. Time Required for Conception in 1727 Planned Pregnancies
Guttmacher, A.F. Fertility/Sterility, 1: 338, 1950
Rubin, S.
- Tietze, C. "Statistical Contributions to the Study of Human Infertility"
Fertility/Sterility, 7: 88 - 95 1956
- Titcher J.L. et al Problem of Delay in Seeking Surgical Care. American Medical Association Journal, 160: 1187, 1966
- Trichopoulos, D. Induced Abortion and Secondary Infertility. British Handands, N. Journal of Obstetrics and Gynecology, V 83, N.8
Danezio, J. pg. 645-650, 1964
Kalandidi, A.
Kalopothaki, V.
- Truax, C.B. et al The Therapist's Contribution to Psychotherapy.
Journal of Clinical Psychology 22, 331 -334, 1966
- Tocherne, E. Psychially Motivated Infertility in Husbands. Fertility/Sterility, V 28, N. 3 , p. 371, 1977
- Vorhaus, Martin, G. The Changing Patient Doctor Relationship, New York Horizon Press, 1957
- Walker, H.M. Statistical Inference. New York, Henry Holt and Co.
and Lev, J. pg. 81 - 108, 1953
- Walton, H.J. and The Effects of age on the Doctors Clinical Preference
Hope, K. British Journal of Clinical Psychology 6, 43 - 51, 1967

- Ward, M.E. One Thousand Pregnancies in Infertility Cases. International Journal of Infertility, 10: 7, 1965
- Wayne, D.M. Iatrogenic Disorders, Medical Times 89, 453 - 456, 1961
- Weir, W.D. Prognosis for the Infertile Couple. Fertility/
Cicchinelli, A.L. Sterility, 15: 625 1964
- Weir, W.D. The Natural History of Infertility. Fertility/Sterility
and Weir, D.R. 12:443, 1961
- Weisman, Avery "The Doctor-Patient Relationship". American Practitioner
1: 1144- 1151, 1950
- Whelpton, P.K. Social Factors Affecting Fertility: Reports
and Kiser, C.V. (eds) from the Indianapolis Study, Millbank Memorial
Fund, Vol. I, (1946) II (1950) III (1952)
- Whitelaw, M.J. "What is Normal Female Fertility?". Fertility/Sterility
6: 103-107, 1955
- Weihe, V.R. Psychological Reaction to Infertility. Psychological
Reports V. 38, N. e. p. 863-866, 1976
- Williams, T.F et al "Deferral Process in Medical Care". Journal of
Medical Education, 36: 899, 1961
- Wilmer, H.A. The Doctor/Patient Relationship. British J. of Med.
Psychology 41, 243 - 248, 1968
- Wilson, J.B. Doctor and Patient Today, Lancet, 201 -2, 1961
- Wooton, B. Social Science and Social Pathology, London, George Allen and
Unwin
- Zborowski, M. "Cultural Components in Response to Pain". in Patients,
Physicians and Illness ed. E.E. Jaco, Free Press, Glencoe
Illinois, 1958
- Zifferstein, I. The Soviet Psychiatrist, American Journal of Psychiatry
123 440 - 6, 1966
- Zola, I. "Problems of Communication, Diagnosis and Patient Care"
Journal of Medical Education, 38: 829-38, 1963
- Zola, I.K. Socio-Cultural Factors in the Seeking of Medical Aid
Ph.D. Thesis, Harvard, 1962