

# Validation of the Modalities of Still Photography and Videography Based Education of Antenatal Women

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## INTRODUCTION

With the rapid pace of industrialization and urbanization in today's society, the joint family system has broken down. Earlier, elderly women in joint families used to guide/tell pregnant women about maternity/child care. In every family, there used to be many married women living together who shared their experiences and helped each other regarding various aspects of motherhood/ maternity. With the breakdown of joint family system, there is usually no one in the family to guide the women on these issues.<sup>1</sup>

All pregnant women need intimate, empathetic as well as sympathetic and essential care. Sadly, these aspects are grossly missing in the existing system / setup of hospital-based care which is a product of modernization. And in the modern era of small two child families, all pregnancies / childbirths are highly valued. Status of maternal health and well-being of the newborn, which are vital in such a scenario, depend on a variety of factors e.g. quality of antenatal, intranatal and postnatal care and health of the mother before and during pregnancy.<sup>2</sup>

Such problems are particularly faced by the women who become pregnant for the first time. It has been reported that primigravida women often lack knowledge on various aspects of pregnancy, labor, postpartum care and neonatal care e.g. diet, rest, precautions, appropriate postures while working during pregnancy, recognition of true labor pains, diet and hydration during labor etc. Now, all this has been medicalized. The traditional birth attendants who used to take care of maternity related issues in families are also vanishing. The role of the family members & TBA has been taken over by the hospital set up. Nurses and doctors are now expected to tell primigravida women about maternity care which was considered earlier an internal family matter. However, most of the time of nurses/obstetricians is spent in clinical care. Consequently, they have little time to attend to routine day to day advisory needs of pregnant women. The situation is particularly more critical in India where because of its population size hospital is overcrowded. Moreover, in government health care set up in India, female doctors are scarce and are overworked; they are not able to devote adequate time to individual pregnant women. Consequently, in this set up, preparedness of most primigravida for safe motherhood leaves much to be desired.<sup>3,4</sup>

So, evidently, general public and the clients of maternal health care services need to be educated about some basics aspects of pregnancy care and related issues. For such empowerment of the people, health education strategies have been devised to propagate self care.

Health information has an empowering effect, enabling patients to have more control over their medical treatment and nursing care. Providing information has long been recognized as beneficial in health care in terms of physiological as well as its outcomes. During pregnancy, health education of the women also has been advocated as a crucial component of medical practice to improve pregnancy outcome. The main aim of antenatal care is to maintain physiology of pregnancy and to prevent or to detect at an early stage and to treat any untoward complications that may arise. Active preparation for pregnancy as envisaged through self-care training of prospective mothers is associated with identification of oneself as a mother and positive feelings about pregnancy and motherhood early in the transition decreased.<sup>5,6</sup>

Health education during pregnancy seeks to enable the pregnant women to actively participate in their own antenatal care with or without the help of nurse or obstetrician. In fact, for primigravida her pregnancy is fraught with many uncertainties. For her the course of pregnancy is an unknown path. There are so many physiological changes during pregnancy and so many likely complications that may occur during antenatal period. However, do's & don'ts during labor are not known to many women, particularly the first timers. Many women are not aware of the guidelines pertaining to these issues. This makes them apprehensive about the course and outcome of the pregnancy. Their anxiety level is also high. Proper knowledge about these things will prepare the women adequately for labor. There are many

things women may be taught so that it improves the outcome. e.g. what to eat , what to wear, how to prepare for labor , how to recognize the onset of, labor, what to do when one has cramps , what test to get done etc.<sup>6,5</sup>

As the role of the family regarding care during pregnancy, labor and puerperium was gradually attempted to be taken over by the State through its hospital services, there were efforts to fulfill the role played by family members / TBA for providing, support to pregnant women. In this context, evidence base of efficacy of pregnancy self care support services was sought to be created. Many packages with differing focus & content have been developed all over the world. These have been tested in research mode, including many randomized controlled trials.

Medical photography is a specialized area of photography that concerns itself with the documentation of the clinical presentation of patients, medical and surgical procedures, medical devices and specimens from autopsy<sup>7</sup>. The practice requires a high level of technical skill to present the photograph free from misleading information that may cause misinterpretation. The photographs are used in clinical documentation, research, publication in scientific journals and teaching<sup>8</sup>. Medical photographers document patients at various stages of an illness, injuries and before and after surgical procedures. They record the work of healthcare professionals to assist in the planning of treatment and education of the public and other healthcare professionals. The nature of the work requires a respect for and sensitivity to people, an awareness of sterile procedures and an adherence to privacy legislation and policies. A few of these provided services to the medical-legal profession. Medical photographers photograph patients in clinics, wards and in operating rooms. They may also be called to photograph an autopsy and gross specimens in the pathology department. Specialized photography techniques using photomacrography and ultra-violet and fluorescence photography may also be used. The role of the medical photographer has changed over the years from being exclusively medical to incorporating more general photography of a commercial or editorial nature to support public relations and education.

Video production is playing an increased role; medical photographers are often responsible for video conferencing from operating rooms and are involved in telemedicine. Departments employing medical photographers tend to number five people or less. Some medical photographers specialize in areas such as ophthalmology and dermatology.

Photography plays an essential part in documenting medical procedures. It's little surprise then that a professional specialist trained to capture this information, known as a medical photographer, exists. They are tasked with taking photographs that aid physicians and other specialists in diagnosing and treating all sorts of ailments and illnesses. Ideally, a medical photographer will have photography experience and medical knowledge. Today, most hospitals have a full-time medical photographer amongst their staff, whose role is to photograph any medical condition the doctor may require as well as to archive the photos and maintain a searchable database. Such a database, along with patient case history, forms a valuable resource of extremely relevant information.

Medical photographers have historically straddled the role of artist and documenter, helping to propagate these incredible visual tools. Today, utilizing photography to share images, track disease, consult for expert opinions, or educate students is ordinary. Its application has burgeoned to include digital photography, telemedicine, 3D-imaging, mole mapping, and more, each with their unique technicalities and significance. From an upside-down, fleeting image to a high-resolution digital file, medical photography and its technologic breakthroughs have come a long way in a flash.

Medical photographers capture a broad range of medical procedures. Photographers in this field typically need a college degree, supplemented with medical knowledge and photography field experience. Those skilled at photography who also have an interest in medicine may want to give this career a closer look.

Medical photographers, who fall under the category of scientific photographers, record a variety of medical data through the use of photography. This requires knowledge of scientific procedures, photography techniques and the proper use of equipment. Medical photographers must also maintain good hand-eye coordination to ensure clear photographs.

### **Purpose of Medical Photography**

Science is a systematic and logical study of the world around us. And key to such a study is proper documentation of our observations, especially in the field of medicine, as improperly recording one's findings could lead to incorrect diagnosis with disastrous consequences for the patient. A picture speaks a thousand words, and hence, a photograph of a medical condition would do more justice than a verbose description. The person responsible for producing clinical images of patients or of disease conditions is known as a medical photographer. Medical photographers are responsible for producing accurate and objective images that truthfully record injuries, disease and the progress of operations and medical procedures. Medical photography serves three main purposes:

1. Education/teaching/training/demonstration.
2. Publication and documentation

3. Diagnosis
4. Research and Development
5. Evaluation of improvement in patient condition as documented through photography
6. Others

### **Objective**

To validate the modalities of Still Photography Vs Videography based education of antenatal women.

### **RESEARCH METHODOLOGY**

The investigator was first got himself oriented about functioning of OBG OPD in PGIMER to develop an idea about pattern of doctor & patient interaction in antenatal

The tools developed for the study were circulated among experts (Public health, Obstetrics and Gynecology, Pediatrics) for validation. Necessary corrections were done. It was an iterative process till an acceptable prototype system is evolved. They were assigning a score to various domains of the tools (Still Photography Vs Videography) as shown in Table-1.

Difficulties faced in the implementation of this system was documented. A panel of experts was evaluate / validate its feasibility.

Feedbacks was taken from all the stakeholders about it.

The investigators organized the training of the personnel involved in provision of Still Photography vs. Videography based Antenatal care/ postnatal care related education.

### **Ethical consideration**

The beneficiaries of the study were primigravida women in terms of enhancing self care through Still Photography vs. Videography on maternity preparedness and communicating with the investigator via Still Photography vs. Videography. Clearance was taken from institute ethics committee of PGIMER, Chandigarh.

Permission was taken from Head Dept. of Obstetrics & Gynecology, PGIMER, Chandigarh.

Informed written consent was taken from participants.

Confidentiality of data was maintained

### **Preparatory phase**

Before starting the intervention, a self Instruction Module (SIM) and videos on maternity preparedness was developed in Hindi, Punjabi and English languages. These was based on the education materials developed.

Based on the work done so far in PGIMER on this issue, references no 143 and 144, antenatal care related education materials was evolved.

The focus was on minor disorders/problems faced during maternity. General aspects of routine care were also covered.

This contained the following aspects such as minor disorders during pregnancy, warning signals during pregnancy and self-care during pregnancy such as diet, clothing, posture, antenatal exercises, rest, drugs, vaccines, weight gain and follow-up. It was circulated among specialists (Public health, Obstetrics and Gynecology, Pediatrics) for consensus validity. It was modified as per the feedback received. Thereafter, it was pilot tested among 10 antenatal women.. Further corrections was done as per the need. Videos also was developed on antenatal / postnatal exercises, postural care, baby care. The researcher was pilot test on laptop based training to the respondents using this video. Feedback of the clinicians was obtained about the contents of this videos fore finalizing it for use in the study.

All these were video were made under supervision of expert Physiotherapist of the institute. Dummy patients was used for video making after taking consent; e.g. doing exercise. In addition experts counseling session was recorded separately in their chambers.

### **Methods of Data Collection / Trial Administration (Figure 1)**

Data was collected in room no 2060 of ANC clinic PGIMER Chandigarh. Cases wererecruited from July 2020. Cases include women at < 20 weeks of gestation without any high risk.

Details on socio-demographic variables were collected. Phone number of cases and caregivers was collected and was crosschecked onsite.

Tool for data collection included

**Interview Schedule-**

1. Socio demographic data sheet of primigravida women.
2. Questionnaire
3. Questionnaire to assess respondent s’ knowledge and practices regarding self-care during pregnancy, labour and puerperium.
4. Questionnaires for knowledge and practices related to minor ailments in pregnancy.
5. Questionnaire for patients’ satisfaction regarding Still Photography and videography based education.

Questionnaires were prepared through relevant literature search, by working experience of the researcher in the Obstetrics department. Then it was validated by circulating among the experts in the fields of Community Medicine, Obstetrics and Gynaecology, Neonatology and necessary corrections was done as per the feedback received. And was pilot tested among 1 Doctor, 1 Nurse and 5 antenatal patients attending OBG OPD, PGIMER . The questionnaires was translated in Hindi and Punjabi under the guidance of experts from Hindi/Punjabi departments of Punjab University.

**All the tools represented preliminary drafts. These were modified after pilot test.**

**Validity of the Training Package:**

Content validity was established with the help of experts in the field of Community Medicine, Obstetrics and Gynecology, Neonatology and NINE

**Detailed research plan**

1. Initially, the investigator first got himself oriented about functioning of OBG OPD in PGIMER to get an idea about pattern of doctor & patient interaction in antenatal clinics.
2. Based on the work done so far in PGIMER on this issue, he evolved antenatal care related education materials in the form of videos and photographs.

**Data Analysis**

Data was analyzed using descriptive and inferential statistics using SPSS.

Data presentation was done in forms of figures and table, percentage, mean, s.d., paired t-test, x<sup>2</sup> test

**RESULTS**

**Table-1: Validation of booklet content/quality by experts (N=6)**

<b>Features</b>	<b>Mean (SD) scores</b>
Matches understanding level	8.3 (0.81)
Technical content	8.1 (0.4)
Logical sequence of text	8.5 (1.3)
Continuity of text	8.5 (1.2)
Language understanding	8.6 (1.0)
Simple with less jargon	8.5 (0.8)
Understanding of diagrams and pictures	8.3 (0.8)
Font	8.8 (0.7)
Handiness (easy to carry for students)	9 (1.2)
Is not loaded with unnecessary information	9 (0.6)
Permits self-learning	8.8 (0.7)
Take home message	8.8 (0.7)
Practical value	8.3 (1.0)
<b>Mean overall score</b>	<b>111.8 (6.3)</b>

**Table-2: Validation of videography based educational material by experts (N=21)**

<b>Features</b>	<b>Mean (SD)</b>
Matches understanding level	8.8 (0.7)
Technical content	8.5 (0.6)
Logical sequence of text	8.3 (1.0)
Continuity of text	8.4 (0.8)
Language understanding	8.4 (0.8)
Simple with less jargon in terminology	8.4 (1.0)
Simplicity of information in video	8.2 (0.8)
Clarity of voice in video	8.3 (1.0)
Quality of video	8.3 (0.9)
Is not loaded with unnecessary information	8.5 (0.8)
Permits self-learning	8.4 (0.9)
Practical value	8.3 (0.9)
Confidence and language of speaker	8.6 (0.8)
Accuracy of information	8.5 (0.8)
Take home message	8.6 (0.9)
<b>Mean overall score</b>	<b>127.1 (8.1)</b>

**Validation of health education materials**

**Table ?...?** shows the content and videography validation score of health education materials on maternity reparedness by expert (n=27).

In step 1 validation, the total validation score was 100% satisfactory in terms of simplicity and non-ambiguity of the educational material only, but not in the domain of relevance and clarity.

In step 2 validation, the total validation score was 100% satisfactory in terms of simplicity, relevance, clarity and non-ambiguity of the educational material.

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