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FROM THE EDITOR



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This is the fourth year of the journal and we are thankful for the production team and the editorial team for their continuous support.

A paper from Bangladesh using a multivariate statistical analysis looked at Identification of Risk Factors for Post Surgical Wound Infections in Elective Operations. The authors stressed that the significant risk factors or variables which affect the abdominal surgical site infections and their incidence are: age, sex, nutrition and immunity, prophylactic antibiotics, operation type and duration, type of shaving and secondary infections.

A cross sectional study from Nigeria attempted to assess the awareness and knowledge about diabetes mellitus (DM) amongst nursing students in the Niger Delta region of Nigeria. A total of 144 students were enrolled for the study. The authors concluded that Knowledge and awareness of certain aspects of diabetes amongst nursing students is poor. More health education is needed to address these deficiencies in order to equip them with the knowledge to positively help their community to reduce the burden of DM on society.

Another paper from Bangladesh attempted to identify the factors as related with the maternal and child health care services at Kurigram district, Bangladesh. Medical check up during pregnancy period, tetanus toxoid vaccination and giving sal-milk to the new born babies have been considered as the maternal and child health care services in this study. To promote the use of health care services among the mothers, their socio-economical and demographical status should be improved. The policy makers need to take proper initiatives for the improvement of reproductive health of the rural women in Bangladesh.

A review paper looked at a guide

for Evaluating Childhood Asthma Programs. The author stressed that evaluating childhood asthma programs is an important step for their successful implementation. After thorough literature review the conclusion is that evaluating asthma programs is an important step for their successful implementation.

A cross sectional study from India attempted to find the prevalence of various contraceptive methods in slum populations and to evaluate men's opinions on condom usage. The authors concluded that men are showing an increased interest in family planning affairs and can play a vital role in deciding the size of the family. Hence their participation has to be encouraged.

AWARENESS AND KNOWLEDGE ABOUT DIABETES MELLITUS AMONGST NURSING STUDENTS IN THE NIGER DELTA REGION OF NIGERIA

ABSTRACT

Objective: To assess the awareness and knowledge about diabetes mellitus (DM) amongst nursing students in the Niger Delta region of Nigeria.

Methods: The study was a cross sectional, descriptive study. A structured questionnaire about the causes, symptoms and complications of DM was administered to the nursing students.

Results: A total of 144 students were enrolled for the study. 85% of the respondents know that DM is a chronic disease and caused by insulin deficiency. Less than a half of the respondents could correctly identify the cut off point of 7mmol/l fasting plasma glucose as being diagnostic for DM. Two-thirds of the respondents identified obesity as a cause of diabetes while only 42% know that weight reduction could help in the management of DM. Dietary therapy and insulin was identified as the most common method of management of diabetes and passage of excessive urine the most common symptom of diabetes identified by the respondents. Two-thirds of the respondents stated that Type I is the most common form of DM. The kidney was the most common organ identified as being affected by DM, with the nervous system being the least, while 92% agreed that urine sugar can be used to diagnose diabetes. Only 40% of the subjects were of the view that Type 2 DM can be seen in the adolescent.

Conclusion: Knowledge and awareness of certain aspects of diabetes amongst nursing students is poor. More health education is needed to address these deficiencies in order to equip them with the knowledge to positively help their community to reduce the burden of DM on society.

Keywords: Students, awareness, diabetes mellitus, Uyo

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Introduction

Diabetes Mellitus (DM) has emerged as one of the world's biggest health problems and its prevalence is increasing at an alarming rate. By the year 2010, it is projected that about 220 million people will have diabetes¹. Diabetes is the leading cause of kidney failure and blindness and also an important cause of non-traumatic lower extremity amputation and cardiovascular disease.²⁻⁵

In Nigeria, the national prevalence is put at about 2.2% and this continues to be on the increase.⁶ Factors responsible for this include increasing obesity due to sedentary lifestyle and reduced physical activity in the population.⁷

It is important to know about the awareness level of a condition in a population, as knowledge is a critical component of behaviour change. Once awareness is created, people are more likely to participate in prevention and control activity. Knowledge about the disease plays a vital role in its further development and its early prevention and detection.^{8, 9} This study therefore set out to find the awareness and knowledge about DM amongst students in a Nursing School in the Niger Delta region in Nigeria.

Subjects and Methods

This study was a cross sectional, descriptive study. It was carried out at the School of Nursing Anua, Uyo in the Oil rich Niger Delta region in Nigeria. The school is co-educational with the majority of the students females, as the nursing

profession is mainly female oriented. Students spend four years in the school with the junior class being the first two years and senior class the last two years. The students who took part in the study were from the junior class. Ethical approval for this study was obtained from the Ethics Committee of the University of Uyo Teaching Hospital, Uyo. A structured questionnaire about the cause, symptoms, treatment and complications of diabetes mellitus was administered to the students after informed consent was obtained from them. The instrument was pilot tested on fifteen student nurses before distributed to participants in the study. The purpose of the pilot test was to identify any problem with the wording and for feedback for potential difficulties when answering the question. No potential problem was identified in the course of the pilot study. All consenting students formed the study sample. The questionnaire was administered to the students after their lecture in class and collected immediately to stop them consulting each other. Data obtained from the students included age, sex, and family history of DM amongst others. After the questionnaires were filled out by the students, they were collected and then analyzed.

Statistical analysis

Descriptive statistics such as means and standard deviation was used to summarize quantitative variables while qualitative variables were summarized using percentages. Data Analysis was done using statistical package for social science (SPSS) version 13.

Results Discussion

Diabetes Mellitus (DM) is the most common endocrine disorder. The prevalence worldwide ranges between 2 and 6% and has been increasing in Africa in the last 20 years.¹⁰ Despite this increasing rate and the various complications associated with the condition, knowledge of the disease by the public, patients, and health care providers is still very poor.¹¹ One major challenge for health care providers is how to increase public, patients' and health care workers' awareness about the disease. This will help in early diagnosis, appropriate treatment and adequate follow-up strategies. Research has shown that education about diabetes resulted in a significant increase in knowledge of a population, as seen in a Singaporean study.¹²

Diabetes mellitus is caused by relative or absolute lack of insulin which is produced by the islet cells of Langerhans. The majority of the respondents (85.9%) were able to identify lack of insulin as being the cause of the disorder. This finding is similar. This high level of awareness contrasts sharply with a study done in Tripoli, Libya, among staff nurses as 95% of them were able to identify DM as secondary to insulin deficiency¹³. A fasting plasma glucose of ≥ 7 mmol/l is the recommended cut off point for the diagnosis of diabetes.¹⁴ However, less than half of the respondents identified this cut off point. This is rather poor considering that only a blood sugar test and usually a fasting plasma glucose is used to diagnose diabetes. In the Tripoli study 96% of the respondents identified the cut off point for diagnosis of diabetes¹³. Continuous nursing education is advocated to bridge these deficiencies in knowledge.

Weight reduction is an important aspect of management especially in Type 2 DM. Weight reduction reduces obesity and hence insulin resistance in these patients, who constitute about 80 - 90% of the cases of diabetes worldwide¹⁴. Less than half of the students

agreed that weight reduction is important in diabetes mellitus, however, in the Tripoli study, 87% of the nurses agreed that weight reduction is important in the management of diabetes.¹³

Diabetes is a chronic medical disorder and treatment must be lifelong if patients are to avoid the complications of the disease. The majority of the students agreed that the disease is lifelong. This is encouraging considering that these students who will in the future become trained nurses will be in a vantage position to influence their patients positively in this aspect in terms of adequate health education, as ward nurses are the patients most frequent contacts¹⁵.

Management of diabetes involves diet therapy, medications including oral hypoglycaemic agents and insulin amongst others. Many of the respondents identified diet therapy and use of insulin as modes of treatment of diabetes, however knowledge about oral hypoglycaemic drugs was poor. This knowledge about oral medications is poor considering that most persons with diabetes mellitus are taking oral hypoglycaemic drugs. A similar study in the United Kingdom documented this poor knowledge of management of type 2 DM¹⁶

In terms of symptomatology, many of the respondents agreed that passage of excessive urine is a symptom of diabetes. Hyperglycemia by causing osmotic diuresis leads to excessive passage of urine with glycosuria in urine. This is not surprising because most people in our society associate passage of excessive urine with diabetes.

Few of the respondents identified weight loss, polydipsia and recurrent infections as symptoms of diabetes, with recurrent infection being the least identified symptom. In the study done in Tripoli 27% of the nurses did not recognize weight loss as a feature of diabetes.¹⁵

Possible explanation could be the association of diabetes and obesity in the adult population.

The increasing incidence and prevalence of diabetes is attributed to the epidemic of Type 2 DM which is the commonest form of diabetes and is responsible for 80 - 90% of the cases of DM¹⁴. However, less than a quarter of the nursing students agreed it was the most common type of diabetes with 63.3% of the respondents saying Type 1 Diabetes was the most common type. Improved nursing education to correct this wrong perception is advocated.

Diabetes can lead to microvascular and macrovascular complications. Macrovascular disease is responsible for most of the deaths in persons with diabetes. Microvascular complications can affect the kidney, eye and nerves. Diabetes is the leading cause of end stage renal disease and blindness^{2,3}. It is also an important cause of lower extremity non traumatic amputation⁴. The majority of the subjects identified the kidney and eyes as the organs most affected by diabetes, similar to the Tripoli study¹³

Nearly two thirds of the subjects (67.6%) agreed that obesity can cause diabetes. This is encouraging as the increasing incidence of Type 2 DM is clearly related to the increasing incidence of obesity as a result of sedentary lifestyle, reduced physical activity and unhealthy diets. Studies have shown that overweight and obesity significantly increase the risk of developing Type 2 Diabetes^{17,18}

The majority (92.3%) of the respondents agreed that urine sugar can be used to diagnose diabetes. This is likely due to the fact that in our society, many people associate diabetes with sugar in urine and hence erroneously believe that diabetes can be diagnosed using urine sugar. This calls for continuous nursing education

Question

Responses

Family history of DM	Yes (28)	No (116)			n = 144
Do you know somebody with DM	Yes (76)	No (68)			n = 144
What hormone lack causes diabetes	Insulin (122)	Glucagon (18)	Growth hormone (2)	blank (2)	n = 144
Value in diagnosing DM	≥ 7 mmol (57)	≥ 8 mmol (43)	≥ 9 (23)	blank (21)	n = 144
DM is a chronic disease	Yes (121)	No (21)		blank (2)	(n = 141)
Commonest type of DM	Type 2 (31)	Type 1 (83)	Gestational DM (17)		(n = 144)
DM can affect	Kidney (93)	Eye (63)	Nerves (17)	> One organ (18)	
Obesity causes DM	Yes (96)	No (46)		blank (2)	(n = 144)
Urine sugar can be used to diagnose DM	True (133)	False (11)			(n = 144)
Type 2 DM can be found in adolescents	Yes (57)	No (77)			(n = 144)
Treatment of diabetes	Diet (76)	Drugs (39)	Insulin (86)	> one mode of treatment (40)	
Symptom of DM	Excessive urination (131)	Weight loss (50)	Excessive thirst (39)	Recurrent infection (16)	>1 symptom (52)

to correct this erroneous impression amongst the students.

Only 39.5% of the subjects agreed that Type 2 DM can be seen in adolescents. The majority of adolescents have Type 1 DM, but these days, we are seeing an epidemic of Type 2 DM amongst adolescents¹⁹. This is as a result of unhealthy lifestyle of our youths with many youths living a sedentary lifestyle, not exercising adequately and have an intake of excessive calories which leads to obesity, a risk factor for Type 2 DM. Similar deficiencies in diabetes knowledge has also been documented amongst student nurses else where by Fisher and Joshi et al.^{20,21}

Without the right knowledge about diabetes, student nurses who will be future nurses cannot positively affect their patients, families and larger societies and with the increasing incidence and prevalence of diabetes, continuous nursing

education on diabetes is advocated to correct this poor knowledge.

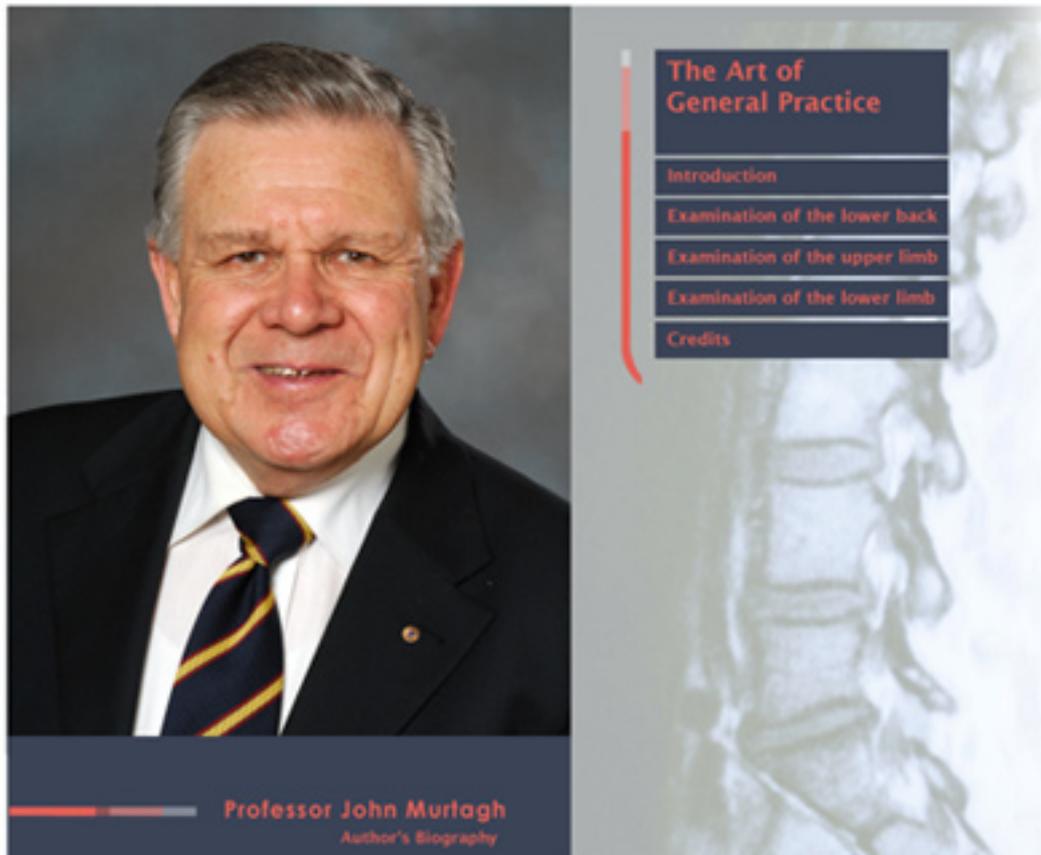
Conclusion

Knowledge and awareness of certain aspects of diabetes amongst nursing students in the Niger - Delta region is poor. More health education is needed to address this poor knowledge in order to equip them with the right information to positively affect their society in order to reduce the burden imposed by the disease.

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Guide for Evaluating Childhood Asthma Programs: Lessons Learned from the Literature

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ABSTRACT

Introduction: Evaluating childhood asthma programs is an important step for their successful implementation. However, no specific guidelines or method of evaluation are recommended as it is evident in the diversity of methodologies and measures used in previous evaluation studies. The purpose of this paper was to conduct a review to provide guidelines for evaluating childhood asthma programs.

Methods: A random sample of 39 evaluation studies was reviewed and lessons learned were documented.

Results: Programs appear to be effective in reducing morbidity attributed to asthma hence are an important part of asthma management. The included table is a summary of main lessons learned in evaluating childhood asthma programs.

Conclusion: Evaluating asthma programs is an important step for their successful implementation. Lessons learned from the literature can provide valuable guidelines for international researchers to conduct successful evaluations.

Key words: health promotion, program evaluation, childhood asthma

Introduction

Although managed at lower rates than the previous decade(1) asthma is still the most prevalent chronic illness among children(2). The epidemiological transition to chronic and non-communicable diseases in the western world(3) and recently in the developing world(4) created needs for health promotion interventions and are an important factor in rising costs of public programs(5). Unknown solutions to the increased prevalence of chronic illnesses played a major role in considering community-based interventions as an important part of the response. Deaths from chronic diseases were also reduced by focusing on prevention strategies and control. This can be achieved by individual and population-based interventions based on the causal and modifiable risks of chronic illness(6). In this regard, recent recommendations of asthma management focused on non-pharmaceutical treatment as an important and necessary part of asthma treatment regimes. Action plans are now an important part of children's asthma management and a requirement of any asthma friendly school. Children are expected to be more responsible for their illness management as they mature(7), and patients and their families are encouraged to have partnerships with their GPs in managing asthma. Therefore, different community-based asthma management programs were conducted to help foster this responsibility and encourage that partnership, and were worthy strategies to reduce asthma

morbidity(8). The purpose of this review is to provide summary guidelines for conducting an impact evaluation of childhood asthma programs. The first part reports on the importance of non-pharmaceutical management of asthma, and highlights the importance of evaluation to judge the value of programs. The second part provides a guide review on rules for successful asthma programs' evaluation based on lessons learned from a representative portion of randomly selected sample of evaluation studies.

Evaluating Health Promotion Interventions

Evaluation is to judge the extent to which a program has met its stated objectives and has produced favourable outcomes(9, 10) by comparing these with some criterion or standard of what is considered a good performance(11). It is a management technique for the systematic feedback of information used to improve programs(12) that make a difference to people's lives, and health services(10). Evaluation studies are carried out based on the assumption that previous programs have not been satisfactory in delivering needed services(12) or to provide convincing evidence that a program is effective; hence it helps people make better practical decisions(10). Therefore, episodic evaluation is required through the life of any program to lead the decision making process(13).

Methods of Evaluation

There is no one way to apply an evaluation, nor can one approach (empirical or phenomenological) provide sufficient answers(9, 10), and researchers still have different views and opinions on the appropriate evaluation methodology. However, evaluation depends mainly on its objectives(14) and not the desire of the evaluator. For example, assessing the cost of alternative therapies which generate the same clinical outcomes or the well-being gained from alternative interventions requires economic evaluation(15). Others might assess whether a service was provided to all equally(10). Depending on their specific objectives, evaluation studies can be process or impact. The former is demanded by the funding bodies and professional groups asking for significant feedback on programs, and the latter by clients and general public asking for contributions that they make in solving problems compared to other services(12). Therefore, it is internal evaluators who mostly apply process evaluation, and external evaluators who provide answers for clients and the general public, on impact.

Although managers consider the quality and efficacy of inputs as insurance for the intervention performance, many factors could be attributed to an unsuccessful program such as poor design or poor implementation. Therefore, process evaluation is essential in the implementation phase(9) while impact evaluation is essential in evaluating the achievement of objectives. Process evaluation informs the way programs function and impact evaluation informs the actual effect of programs(16, 17). Other factors that guide evaluation are the program stage on the development continuum(12) and the researcher's preference to use qualitative or quantitative approaches.

In order to provide effective and efficient services, program directors prefer to base their decisions about their programs on objective

information(12) hence refer to most recent evidence to shape the structure of programs. Most scientists and health practitioners use experimental designs that provide evidence on the effect of a program by focusing on outcomes, use hypotheses testing, control and quantification of variables, and statistical analyses as an approach to realistic evaluation. The measures are usually of objectively observable or measurable change, rather than of subjective states and individual reports. In humanities, however, most variables cannot directly be observed. Therefore, the empirical observations that construct the variable are measured(16). In order to show causal relationship at an empirical level, researchers provide evidence of causation beside empirical relationship(18) though it may be difficult to apply the known hierarchy of evidence in specific settings and situations(19). Therefore, the appropriateness and feasibility of healthcare evaluation designs is the bases by which the existing top hierarchies of evidence are excluded. It is important to provide a logical outline of the choice of a design from the hierarchy. In this regard, different authors believe that the evidence-based hierarchy needs changing(19, 20). This change, if approved, must reflect the most appropriate external evidence to answer research questions. For example, it might be impossible to employ experimental design, and that is why another alternative approach that yields valid and refore, one condition of evaluation design is to provide the best evidence to answer questions about changes caused by a program.

Learning from the literature

A review of the literature on studies involved in evaluation of childhood asthma programs was conducted. CINAHL, MEDLINE, and Proquest Health and Medical Complete were used to locate studies focusing on childhood asthma programs. The search strategy included published literature reporting asthma, evaluation, program, and

children. Reviewed articles included school-based programs, asthma camps, self-management programs, and evaluation studies of asthma management interventions. Excluded from the review were studies lacking an evaluation component of a health promotion intervention, studies testing medications, and studies evaluating the role of health care providers. Viewpoints and commentaries on evaluation studies, and studies reporting perceptions of participants were also excluded. As a result of the initial screening, a total sample of 2768 articles was identified, of these 387 studies incorporated an evaluation component and met the inclusion criteria. Given the large number of retrieved articles, a random sample of 39 articles (10%) was reviewed.

Focus of the Review

The aim of the review was to provide the international reader with summary guidelines for future evaluations of childhood asthma programs. The issues that were addressed by this review included:

- Presenting major outcome measures of asthma health promotion interventions. Interventions included comprehensive programs, school-based programs, asthma camps, and interventions aimed to create an asthma friendly environment.
- Describing the methods and processes by which evaluations were conducted.
- Presenting examples of asthma programs around the world, and
- Drawing lessons to inform future evaluation studies

Results

Interventions

Asthma programs were mostly conducted in schools(22-24) including camp days(25-27). However, other settings included homes(28, 29), hospitals(30) or outpatient clinics(31), and the wider community(32, 33). Programs targeted children as young as 2 years(34) though the majority targeted school aged children(35). Studies ranged from minor pilot studies of patient-

centred programs to evaluating national population-based asthma programs. Evaluation studies targeted children with asthma(36), their parents(37), peers(38), teachers of schools(8), and child care staff(39). Programs interventions included asthma day camps; training workshops(39), information packs(37), exercise program(40), asthma-education sessions(41), video(42) and computer(43) games, and computer based asthma education(44).

Evaluation Design

Programs incorporated an education component and an evaluation study. Evaluation studies were dominated by the experimental approach ranging from RCTs(45-47) and quasi-experimental designs(29, 48) to descriptive studies using surveys(28, 37). However, some studies took a qualitative stance as an approach for process evaluation(49). Mixed methodologies were more prominent in comprehensive community-based and national programs(50).

Main Outcome Measures

Studies varied in measuring efficacy though incorporated common measures and similar outcomes. The majority of these studies focused on symptoms control as projected outcome. Control was measured in terms of lower morbidity (fewer symptoms, ER visits, medications usage, attacks etc), better school performance, and better quality of life. On the other hand programs improved asthma knowledge, self-management skills, adherence to treatment regime, school attendance and performance, peak flow meter use, and control over asthma symptoms. Other important contributions included decreasing the economic burden of asthma management on the long run for both families and the health system. Therefore, programs were seen as additional tools to foster existing treatment and an opportunity to introduce asthma management skills. Outcomes can be categorized into:

- Patient-related: includes their asthma knowledge (triggers recognition and inhaler technique); behaviour (attitudes toward the

illness, anxiety, and control perception); quality of life (well being and satisfaction); self-efficacy (skills of management, coping strategies, and confidence participating in activities); and clinical outcomes (attacks, symptoms, peak flow meter).

- Parents-related: includes their asthma knowledge; stress (fear and anxiety); management practice (confidence and readiness); and lost workdays.
- Setting-related: for example school setting incorporated child performance (grades, attendance and absenteeism); teachers' knowledge and confidence to manage asthma; peers knowledge and attitudes toward children with asthma; and school environment.
- Health indicators: health care utilization (ED visits, GP visits "scheduled and unscheduled", hospitalizations); medications usage; and asthma action plans.

Better outcomes were produced by multi-component programs (comprising both educational and clinical components). The educational component was widely adopted and dominated the majority of implemented programs. The education component aimed to improve awareness and contributed to better asthma management in the community. The clinical component aimed to detect cases, facilitate asthma management in the community (schools, hospitals, etc) by providing necessary recourses and building capacity. Implementation included eliminating causes of distress such as decreasing triggering factors; and managing symptoms of children by ensuring the availability of action plans, medications, and appropriate devices for urgent use.

Programs around the World

Asthma management programs have been widely implemented around the world particularly in Australia, Canada, the UK, and the USA. Most of these programs aimed to increase awareness and improve quality of life of children with asthma. The Lion Who Couldn't Roar, a program

for third-grade children was developed based on National Asthma Education and Prevention Program (NAEPP) guidelines(51). The program has improved asthma knowledge and self-reported attitudes toward asthma. Another asthma education program for parents resulted in increasing their understanding of their child's experience of asthma(52). The Greater Newcastle in Schools Project was implemented as a teacher led education program to assess its impact on knowledge, quality of life, and attitudes of students(8). Results showed beneficial outcomes, and researchers recommended wider dissemination of similar programs in schools. Similarly, a nurse-led management program has proved useful in managing childhood asthma(53). Watch, Discover, Think, and Act is a computer assisted intervention aimed to improve asthma self management of children. Evaluation showed improvement in health care utilization, symptoms, knowledge, and self management behaviours of children(43). The Triple-A Program, a peer led program, was launched in Australia to promote self management behaviours for asthma in adolescents(54). The program improved knowledge and attitudes about asthma. In Canada, the Air Force asthma education program was designed to educate children and their parents about asthma and its management(55). Evaluation showed improvement in the quality of life of children.

On the other hand, many programs were implemented on a national basis with the purpose to improve asthma management for the wider community. Generally, these programs were launched in countries with high asthma prevalence. For example; The Asthma Friendly Schools Program in Australia, a national program was launched in 2001 with the aim to improve quality of life, health outcomes and well being for school children with asthma(56). Teachers' and children's awareness about asthma causes and triggers were important components of this program. The Open Airways for Schools, a school based management education program in the USA,

1. Evaluator to understand the purpose of evaluation: The aim is to prove efficacy and help build evidence based practice. Therefore, evaluation is more than just a review of policies and documentation of an opinion.
2. Definitely evaluators need partnerships to succeed. Partnerships include other organizations and researchers. Negotiation with stakeholders, supporters are important to get enough funding to act confidently.
3. Enough support is required (includes administrative, logistic, and financial). However, it is important to plan making the most out of little resources. Hence for strong outcomes evaluators are still committed to evaluate in the best way they can even if with small funding.
4. Reviewing the literature for similar programs, interventions, and approaches is important. Consulting experts, however, is not less important.
5. Using multiple approaches for evaluation. It is recommended for strong evaluation results that multiple evaluations are used (this involves applying evaluations with both approached separate or combined (mixed methodology)), and multiple evaluators are involved (internal and external).
6. Qualitative data can always be used to support numbers (using comments from participants and stakeholders to support claims and numerical results); balancing the quantitative statistics and qualitative stories is preferable.
7. Aiming for valid and reliable evidence. Theory-based programs are more than a theory, particularly after being proved effective by evaluation. Therefore, evaluation requires robust design that has theoretical basis and valid & reliable tools. The literature makes a valuable source for tools. However, if no tools are found or these are not to the point new tools need to be developed and tested. In this regard, tools should to capture the actual meaning of variables and not basing decisions on self reports and opinions.
8. Choosing the right setting for conducting the evaluation. Looking for answers in the right places.
9. Starting with service recipients (the main focus group) and not with stakeholders (their views can be used to support results and not to judge value of interventions). Child-friendly instruments are used to measure the direct effect on children. Parents' reports can't be confidently used in evaluating the effect on their children.
10. Subjects to have clear understanding of the study and what it entails. Therefore, child-friendly forms which help explain the study for children.
11. Evaluating satisfaction with the service is always accompanied with assessment of the recipients' knowledge of their illness. These factors are always related and might affect the outcomes. Attitude is worth looking at as well (has the program changed or improved the subjects behaviour towards illness, patients, and management etc)
12. The aim is to change programs or policies behaviour and not policies or its makers. Challenging an existing policy always faced with opposition (evidence is used to change clinical behaviour of interventions).
13. Recommendations to change should include education of stakeholders on the benefits contributed to the change. Marketing the recommendations by presenting clear evidence is the key for acceptance.
14. Evaluation is a long process that might take years. Therefore, records should be kept for later referral and future comparison.
15. Statistics can be deceptive. Although significant, results can still be of small effect. If evidence was ensured, the effect size of that evidence must be calculated.
16. When evaluating a program, logic should always be in presence. The input and the output of the intervention (the program) must be weighted. Inputs should logically be able to yield outputs (e.g. providing teachers of the school with one hour education would not contribute for valuable benefits to parents at homes).
17. Expecting challenges setbacks, and unexpected outcomes is crucial. Methodological challenges might include tools, design, tracking and understanding changes, attributing results to the intervention or specific actions or strategies, and ethics clearance). Apply pilot studies for assessing feasibility of designs and tools. Ethics clearance from all bodies involved in the evaluation must be satisfied, and restrictions must be expected. However, avoiding contamination of the data by looking for unethical exits is more crucial. Other challenges might include lack of resources, low participation rate, lack of gold standards as measuring tools, and opposing public perceptions.
18. In extreme ideal conduction of an evaluation, aligning evaluation of a group of programs together would help save resources (cost effective).
19. Opportunities for improvement should be hunted, and considering learning from other cultures and settings should be considered.

(Previous page:

Table 1: Recommendations for Successful Asthma program Evaluation)

improved school performance of children with asthma, their symptoms, and their parents' asthma management(35). Further improvement in asthma outcomes was confirmed when targeting the people in a child's environment, particularly among children with persistent symptoms. Likewise, the Children's Asthma Management Program helped decrease hospitalizations, ER visits, and acute office visits for asthma(57).

The overall benefits of evaluation studies of asthma programs for international readers were that they provide bases for generating guidelines for evaluation. This review allowed for selecting a number of recommendations to successful evaluation (Table 1). Community based asthma management programs adjusted the deformity in the lives of asthma sufferers by improving related factors. Factors were categorised into four groups (patient-related, parents-related, setting-related, and health indicators) which were proved improvable in different community settings particularly in schools.

Discussion

Asthma affects a large percentage of children(58, 59, 60) and affects their lives as a consequence(61, 62). As children have variations in their ability to self-care,(7) health education programs can create positive changes in their quality of life and health behaviour(63).

The importance of health promotion programs is beyond doubt, and self management is an effective approach to control symptoms, hence important in the current asthma therapy(7). A systematic review(64) recommended the consideration of educational programs as a part of the routine care of young people with asthma,

and were a kind of exit to the "asthma cannot be cured" principle.

Community settings such as schools are suitable locations for providing asthma education and management. Programs had targeted children without asthma in an act that helped increase their awareness and contributed for better attitudes toward their peers with asthma, in a similar contribution to their teachers who have been provided with asthma emergency management education. School based asthma self management programs are rational solutions for preserving resources and target a larger section of the community. Beside their application feasibility at schools, asthma programs took a further step to include both education and clinical components of management. The education component provided the school community with the appropriate information on asthma management, hence there was increased awareness of asthma across the community. The clinical component ensured expert management(65), appropriate inhaler devices(66), emergency medications ready and available for use(67), and helped decrease triggering factors(68). By removing potential triggers from homes or schools (smoke free schools, removal of plants that may trigger asthma from school's environment, removing pets from homes etc), patient quality of life would improve(69). Providing a healthy environment that reduces asthma triggers is an important part of asthma programs(68). Providing schools with both components helped decrease the risk and improved the quality of life of children with asthma, and their families(70).

It is of interest for patients, families, and health care providers to determine if patients involved in health promotion programs benefit from activities carried out in their communities. Evaluation of health promotion programs requires insight into processes and outcomes imposed by programs. However, different factors could affect the evaluation process

including funds available to carry out evaluation. Therefore, basing the planning phase of programs on effective evaluation strategies and needs is crucial(9).

Evaluation explores how well a program was implemented by investigating barriers, enablers, strengths and weaknesses to inform decisions. Quantitative and qualitative research could be used to assess the efficacy of a program. However, different factors play a role in selecting appropriate evaluation methodology. Process evaluation is mainly employed to assess how things work, while impact evaluation assesses if it works(16). Lessons learned from others' experiences can make a good background for planning new interventions particularly for newly exposed communities. This review recommends the inclusion of both educational and clinical components of asthma management in implementing community based asthma programs. In planning evaluation, however, the four related factors (patient, parent, setting, health indicators) should be considered.

Conclusion

The non-pharmaceutical management of asthma shares importance with the medications. Based on lessons learned from the literature, this review provides guidelines for researchers to conduct a successful evaluation of an asthma management program for children.

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Maternal and Child Health Care Services at Kurigram District in Bangladesh

ABSTRACT

Introduction: The aim of this study is to identify factors related with the maternal and child health care services at Kurigram district, Bangladesh. For this purpose, we have used micro data obtained from field survey, around Fulbari sadar thana in Kurigram district and have analyzed these data by using well known statistical techniques like contingency and logistic regression analysis. Medical check up during pregnancy period, tetanus toxoid vaccination and giving sal-milk to the new born babies have been considered as the maternal and child health care services in this study. Our findings indicate that a good number of reproductive women are not health conscious. Significant associations are seen within the health care services and the socio-demographic variables. The probabilities of having a medical check up during the pregnancy period, tetanus toxoid vaccination as well as giving sal-milk to the new born babies of the women who are literate, age at marriage 18+ years and have access to mass media are significantly higher than those who are illiterate, age at marriage less than 18 years and having no access to mass media. To promote the use of health care services among the mothers, their socio-economical and demographical status should be improved. The policy makers need to take proper initiatives for the improvement of reproductive health of the rural women in Bangladesh.

Key Words: Medical Check up, Tetanus Toxoid Vaccination, Sal-milk, Contingency and Logistic Regression Analysis, Bangladesh.

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Introduction

In reproductive health, maternal and child health have traditionally been considered as an important indicator for describing health progress, and social and economic well being of a country. Since independence in 1971, the government of Bangladesh is investing substantially in the institution building and strengthening of health and family planning services in the country. The main thrust of these programs has been in the provision of primary health care services. The government has already initiated the institutionalization of maternal and child health and family planning services such as Health and Family Welfare Centre (HFWC), Rural Dispensary (RD), Satellite Clinic (SC) etc. have been established through the country (BDHS, 2004). The objective of maternal and child health care is the reduction in the maternal, prenatal, neonatal, infant and child mortality and the promotion of the health of mother and child in

the family. Despite this initiative of the government, maternal and child health conditions have not improved as much as expected in the country. Maternal and child health services indicate various facilities and programs organized for the purposes of providing medical and social services for mothers and children. Medical services include prenatal and postnatal services, family planning care and pediatric care in infancy (Maternal and Child Health Services, 2009). In this study, we have considered the maternal and child health care services as medical check up during pregnancy period, tetanus toxoid vaccination and giving sal-milk to new born babies.

Most of the country's health infrastructure and health service system are under the government's management and control. At the local level, 3,275 Union Health and Family Welfare Centres (UHFWCs) exist to serve the 4,470 unions. Additionally there are upazila health

complexes, with 31 beds in 391 rural upazilas, 64 district hospitals, 13 government medical college (MC) hospitals, 6 postgraduate hospitals and 25 specialized hospitals. A further 64 Maternal and Child Welfare Centres (MCWCs) have been established to provide maternal services at the district level (MOHFW, 2000).

Although improving in terms of national averages, maternal health status for many Bangladeshi women remains poor. Around 50% of Bangladeshi women suffer from chronic energy deficiency. Over 43% of the pregnant women are iodine deficient and more than 2.7% develop night blindness during pregnancy (BDHS, 2001). Life expectancy at birth has increased from 44 in 1970, to the present 62 years (UNICEF, 2004).

The reproductive health care services that a mother receives during her pregnancy and at the time of delivery are important for the well-being of the mother and her child. A well-designed and implemented national antenatal care program facilitates, detection and treatment of complications during pregnancy, and it provides an opportunity to disseminate health messages to women and their families. In addition, this early contact with the health care system can improve the timely and appropriate use of delivery care services.

The Bangladesh Maternal Health Services and Maternal Mortality Survey 2001 evaluated women's awareness about specific life threatening complications during pregnancy, delivery and after delivery, and found it to be low. That survey also reported that 40% of the pregnancies are free of complications and 60% are reported with one or more problems. The most common complications (about 50%) reported are headache/blurry vision/high blood pressure/oedema. The other major complications (about 24%) are breach of delivery/prolonged or obstructed labor/ torn

uterus. Other notable problems are abdominal pain (15%) and excessive bleeding (13%). Overall, 45% of all pregnancies with complications are perceived as dangerous or potentially life threatening.

To reduce the maternal mortality and improve the overall reproductive health status of women, the Bangladesh government has taken on an extensive program. The major activities aimed at maternal health focus on awareness about and access to contraceptive methods; antenatal care (Tetanus immunization, iron folic acid supplementation, nutrition education); promotion of safe delivery practices by skilled birth attendants, Emergency Obstetric Care (EOC) and post natal care (Safe Motherhood, 2002).

In the back drop of the above scenario, this paper focuses on the medical check up during pregnancy period, tetanus toxoid vaccination during pregnancy period and giving sal-milk for their new born babies and we will try to identify the factors that are affecting those maternal and child health care services.

The Ministry of Health and Family Welfare (MOHFW) has adopted the Health, Nutrition and Population Sector Program (HNPS) to provide quality, affordable reproductive health services, including family planning, to contribute directly to the attainment of the Millennium Development Goals (MDGs). Although there has been considerable success in the health services, still more than 60% of the population does not have access to basic health care, despite the fact that many government health facilities at various levels are not being adequately utilized (MOHFW, 2003). This analysis aims to provide new ideas about ways of investigating levels of health care services that can be used by health service providers to target those women who don't receive professional health care services. Policy makers may also find the

results helpful in developing policies targeting underserved women. In an overview of maternal health issues, data source and methods are discussed in section 2; section 3 discusses the results and concluding remarks are set out in section 4.

Data and methods

In this study, a total number of 900 female respondents have been questioned during the survey period in 2008 and this survey has been conducted under the authority of the Department of Population Science and Human Resource Development, University of Rajshahi. The respondents were interviewed by some selected questions from Fulbari Sadar Thana at Kurigram District in Bangladesh, by purposive sampling technique. In this study, the respondents are ever married women aged 13-49.

Various alternative statistical tools exist for analyzing the extent of maternal and child health care services over time. This study reports the results from percentage distribution, test of association, Yates Correction also make for 2x2 contingency analysis and multivariate logistic regression estimation. Logistic regression models are used to determine the relative effects of various characteristics on maternal and child health care services. The variables are presented in Table 1.

Results and Discussion

Women's low status in society, the poor quality of maternity care services, lack of trained providers, low uptake of services by women, and infrastructure and administrative difficulties all contribute to the high rate of maternal deaths (Haque et.al., 2007). Table 2 shows that the percentage distribution of some selected background characteristics of the respondents, more than fifty percent (55.6%) of respondents' age at marriage are under 18 years, a higher percentage (42.0%) of respondents are illiterate, 58.0% of women are literate but most of them know how to write their name

<p>Medical check up during the pregnancy period: 0 = Do not receive medical check up during pregnancy 1 = Received medical check up during pregnancy</p> <p>Tetanus Toxoid Vaccination: 0 = Did not receive TT vaccination during pregnancy 1 = Received TT vaccination during pregnancy</p> <p>Habit of giving Sal-milk to the new born babies: 0 = Did not give Sal-milk to their new born babies 1 = Gave Sal-milk to their new born babies</p>	<p>Age at marriage (in year): 0 = <18 1 = ≥18</p> <p>Education of respondent: 0 = Illiterate 1 = Literate</p> <p>Occupation of respondent: 0 = Only housewife 1 = Not only housewife</p> <p>Treatment: 0 = Traditional 1 = Modern</p> <p>Husband's education: 0 = Illiterate 1 = Literate</p> <p>Family monthly income (in Taka): 0 = <2500 1 = 2500-3500 2 = 3500+</p> <p>Religion: 0 = Muslim 1 = Non-Muslim</p> <p>Access to mass media: 0=No 1=Yes</p> <p>Family member (in person): 0 = 2-3 1 = 4 2 = >4</p>
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Table 1: List of variables used for logistics regression analysis

only, 86.1% of respondents are housewives, about fifty percent (46.9%) respondents obtain their treatment in the traditional way (village doctor, kabiraj, traditional healer etc), 52.6% of respondents have not taken their medical check up during pregnancy period, 53.6% of respondents have not taken tetanus toxoid vaccination, and 40.6% have not given sal-milk to their new born babies and 98.0% of respondents are Muslims.

Table 2 also shows the socio-economic condition of the respondent's husbands; 40.2% respondents' husbands are illiterate, about 45.6% respondents' family monthly income are less than 2500 taka, 57.0% of families have no access to mass media

and 31.2% of families consist of more than four members.

The above result reveals that the socio-demographic conditions of the rural people of Kurigram district are not so good. Therefore those peoples do not receive their maternal and health care services properly.

All the dependent variables (categorical) are significantly associated with the independent variables (categorical). The one exception is made in the case of respondents' occupation. However, we may say that these background characteristics of the respondents have significant effect on medical check up, tetanus toxoid vaccination during pregnancy period and giving sal-milk to new born babies.

To identify the contribution of the selected socio-demographic characteristics of the respondents on their medical check up, tetanus toxoid vaccination during pregnancy period and giving sal-milk to the new born babies, we make a multiple logistic regression analysis. The necessary findings are presented in Table 4.

From Table 4, it is observed that the selected socio-demographic variables are positively significantly associated with their medical check up, tetanus toxoid vaccination during pregnancy period and giving sal-milk to the new born babies of the respondents, but two exceptions have been found in the case of husbands' education and the nature of treatment of the respondents.

Table 2: Percentage distribution of women by some selected background characteristics:

Characteristics	Number of Cases	Percentage	Characteristics	Number of Cases	Percentage
Age at marriage (in year)			Habit of giving sal-milk to the new born babies		
<18	500	55.6	No	365	40.6
≥18	400	44.4	Yes	535	59.4
Education of respondent			Husband's education		
Illiterate	378	42.0	Illiterate	362	40.2
Literate	522	58.0	Literate	538	59.8
Occupation of respondent			Family monthly income (in Taka)		
Only housewife	775	86.1	<2500	410	45.6
Not only housewife	125	13.9	2500-3500	324	36.0
Treatment			3500+	166	18.4
Traditional	422	46.9	Religion		
Modern	478	53.1	Muslim	882	98.0
Medical check up during pregnancy			Non-Muslim	18	2.0
No	473	52.6	Access to mass media:		
Yes	427	47.4	No	513	57.0
TT injection during pregnancy period			Yes	387	43.0
No	482	53.6	Family member (in person)		
Yes	418	46.4	2-3	343	38.1
Total	900	100.0	4	276	30.7
			>4	281	31.2
			Total	900	100.0

Source: Based on a Survey by the researcher in September (1-30), 2008

Table 2: Percentage distribution of women by some selected background characteristics

Firstly, the ever married women age at marriage 18 and above years have received medical check ups 1.96 times more, have received tetanus toxoid vaccination during pregnancy period 2.02 times more and had given sal-milk to their new born babies 2.09 times more than those of the age at marriage less than 18 years.

The literate women have received medical check up 1.8 times more, received tetanus toxoid vaccination during pregnancy period 1.6 times more and given sal-milk to their new born babies 1.5 times more than those of the illiterate women.

Family's monthly income indicates the economic condition of the respondent. We found that the respondents' family monthly income 2500-3500 taka and 3500+ taka have positively influenced medical

check up, tetanus toxoid vaccination during pregnancy period and giving sal-milk to their new born babies. The respondents whose family monthly income 2500-3500 taka and more than 3500 taka have more likely received a medical check up, tetanus toxoid vaccination during pregnancy period and given sal-milk to their new born babies than those of the respondents whose monthly family income <2500 taka.

The non Muslim respondents 4.1, 4.2 and 4.0 times more receive medical check up, tetanus toxoid vaccination during pregnancy period and have the habit of giving sal-milk to their new born babies than those of the Muslim respondents.

Access to information is the determinant that raises women's awareness and helps to make decisions regarding medical check

up during the pregnancy period, tetanus toxoid vaccination during pregnancy period and giving sal-milk to their new born babies. Radio and television are powerful media that play key roles in increasing the participation in medical check ups during pregnancy, tetanus toxoid vaccination during the pregnancy period and giving sal-milk to their new born babies. The women who have access to mass media such as radio or television are 1.58, 1.62 and 1.82 times more likely to receive medical check up, tetanus toxoid vaccination during pregnancy period and give sal-milk to their new born babies, respectively, than those of the women who have no access to the radio or television.

Again the respondents who have family members of 4 and above received medical check up, tetanus toxoid vaccination during

Characteristics	Medical check up during pregnancy period (%)			Tetanus Toxoid vaccination during pregnancy period (%)			Habit of giving sal-milk to the new born babies (%)		
	No	Yes	χ^2 Value	No	Yes	χ^2 Value	No	Yes	χ^2 Value
Age at marriage (in year)									
<18	69.1	40.5		68.9	40.2		71.5	44.7	
≥18	30.9	59.5	74.43*	31.1	59.8	74.62*	28.5	55.3	63.27*
Education									
Illiterate	56.9	25.5		55.6	26.3		55.3	32.9	
Literate	43.1	74.5	90.50*	44.4	73.7	78.82*	44.7	67.1	44.87*
Occupation of respondent									
Only housewife	87.5	84.5		87.6	84.4		85.8	86.4	
Not only housewife	12.5	15.5	1.67	12.4	15.6	1.80	14.2	13.6	0.06
Treatment									
Traditional	51.0	42.4		51.5	41.6		57.8	39.4	
Modern	49.0	57.6	6.61*	48.5	58.4	8.68*	42.2	60.6	29.40*
Husband's education									
Illiterate	55.0	23.9		53.5	24.9		52.6	31.8	
Literate	45.0	76.1	90.16*	46.5	75.1	76.40*	47.4	68.2	39.14*
Family monthly income (in Taka)									
<2500	67.4	21.3		65.6	22.5		58.4	36.8	
2500-3500	24.9	48.2		26.1	47.4		34.0	37.4	
3500+	7.6	30.4	202.09*	8.3	30.1	177.10*	7.7	25.8	61.42*
Religion									
Muslim	99.4	96.5		99.4	96.4		99.5	97.0	
Non-Muslim	0.6	3.5	9.48*	0.6	3.6	10.05*	0.5	3.0	6.61*
Access to mass media									
No	70.0	42.6		69.7	42.3		72.9	46.2	
Yes	30.0	57.4	68.52*	30.3	57.7	68.40*	27.1	53.8	63.15*
Family member (in person)									
2-3	41.9	34.0		41.5	34.2		45.5	33.1	
4	24.9	37.0		25.7	36.4		23.3	35.7	
>4	33.2	29.0	15.55*	32.8	29.4	12.18*	31.2	31.2	19.65*

Note: * indicate 5% level of significant association

Table 3: Contingency analysis for medical check up during pregnancy period, tetanus toxoid vaccination and habit of giving sal-milk to the new born babies of the respondents

pregnancy period and habit of giving sal-milk to their new born babies more than those of the respondents who have 2-3 family members.

Conclusion

In this study we consider that medical check up, tetanus toxoid vaccination during pregnancy period and the habit of giving sal-milk to new born babies, as maternal and

child health care services. Different services of maternal and child health care are very poor at Kurigram district. A higher percentage of mothers have not had any medical check up, they have not received any tetanus toxoid vaccination during the pregnancy period as well as a good number of mothers have not been in the habit of giving Sal-milk to their newborn babies, which is very important for new born

babies. This scenario focuses on the observation that a good number of respondents are not aware of the need for maternal and child health care. The socio-demographic and economic variables such as age at marriage, education, religion, family monthly income, access mass media and family member play important roles on maternal and child health care services. These identified variables are significantly associated

Characteristics	Medical check up during pregnancy period		Tetanus Toxoid vaccination during pregnancy period		Habit of giving sal-milk to their new born babies	
	Coefficient (β)	Odds Ratio	Coefficient (β)	Odds Ratio	Coefficient (β)	Odds Ratio
Age at marriage (in year)						
<18 Ⓢ	-	1.000	-	1.000	-	1.000
≥18	0.672*	1.959	0.704*	2.022	0.736*	2.088
Education of respondent						
Illiterate Ⓢ	-	1.000	-	1.000	-	1.000
Literate	0.564*	1.758	0.495**	1.641	0.382***	1.465
Treatment						
Traditional Ⓢ	-	1.000	-	1.000	-	1.000
Modern	-0.004	0.996	0.066	1.068	0.510	1.665
Husband's education						
Illiterate Ⓢ	-	1.000	-	1.000	-	1.000
Literate	0.082	1.085	0.028	1.028	0.160	1.173
Family monthly income (in Taka)						
<2500 Ⓢ	-	1.000	-	1.000	-	1.000
2500-3500	1.561*	4.763	1.425*	4.157	0.208*	1.232
3500+	1.723*	5.602	1.552*	4.721	0.669*	2.952
Religion						
Muslim Ⓢ	-	1.000	-	1.000	-	1.000
Non-Muslim	1.410***	4.096	1.439**	4.216	1.368***	3.928
Access to mass media						
No Ⓢ	-	1.000	-	1.000	-	1.000
Yes	0.457*	1.579	0.481*	1.618	0.599*	1.820
Family member (in person)						
2-3 Ⓢ	-	1.000	-	1.000	-	1.000
4	0.846*	2.331	0.734*	2.083	0.959*	2.610
>4	0.434**	1.543	0.426**	1.532	0.690*	1.994
Constant	-2.308	0.099	-2.227	0.108	-1.417	0.242

Note: Ⓢ= Reference Category, and *, ** and *** indicate $p < 0.01$, $p < 0.05$ & $p < 0.10$ level of Significance respectively

Table 4: Results of logistic regression analysis on medical check up, tetanus toxoid vaccination during the pregnancy and habit of giving sal-milk to their new born babies of the respondents

with medical check up, tetanus toxic vaccination during pregnancy period and the habit of giving sal-milk to newborn babies. The probabilities of taking a medical check up during the pregnancy period, as well as tetanus toxoid vaccination and giving sal-milk to their new born babies of the women who are literate, age at marriage 18+ years and have access to mass media are significantly higher than those who are illiterate, age at marriage

less than 18 years and have no access to mass media. To promote the use of health care services among the mothers, their socio-economical and demographical status should be improved. The policy makers need to take proper initiatives (or programs) for the improvement of reproductive health of the rural women in Bangladesh.

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Current scenario of Contraception and Indian Men

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ABSTRACT

Objectives:

1. To find the prevalence of various contraceptive methods in slum population.
2. To evaluate men's opinion on condom usage.

Study Design: A cross-sectional study was done on slum inhabitants of Chandigarh, India.

Methods: Two-stage random sampling technique was used. Sample population comprised 402 males whose wives were in the reproductive age group.

Results: 265 (65.9%) respondents were using contraceptives. Condom was the most common contraceptive being used by 156 (58.9%) of the sample. Easy availability 124 (79.5%), no side effects 55 (35.3%) and unwillingness of spouse for other contraceptive method 51 (32.7%) were among the main reasons in favour of condom usage. More than one third of participants i.e. 141 (35.1%) felt that they should use the contraceptive methods and 74

(18.4%) felt that wives should opt for it. Condom users were more involved in pre-marital and extra-marital sex acts. High / middle socioeconomic status and involvement in pre-marital sexual activities were significant factors associated with condom usage.

Conclusions: Men are showing an increased interest in family planning affairs and can play a vital role in deciding the size of the family. Hence their participation has to be encouraged.

Key words: Condom, male preferences, reproductive age, family planning

Introduction

Encouragement of male participation is a promising strategy for addressing some of the world's most pressing reproductive health problems. [1] Men being the dominate decision makers regarding family affairs in developing countries can directly or indirectly affect women's reproductive health. They can promote safe motherhood by planning their families as well as accompanying their partners to meet health providers where they can learn about the available contraceptive methods. Further they can help their partners to use modern contraceptive methods correctly, can encourage them to seek help from health providers if side effects occur and also they themselves can opt for male contraceptive methods. Hence, men deserve more attention in the ongoing family planning and other reproductive health programmes for the betterment of their families and community. [2]

A lot of research programs in the developing as well as developed countries pertaining to the acceptance and promotion of family planning methods, are now focusing on men's involvement, which was encouraged even in 1994 during the Cairo International conference. [3] In India too, focus has been shifted to some extent from females to males in the promotion of contraceptive techniques. Condoms are being promoted widely via a condom promotion program, as this is the best method to thwart the continuing spread of HIV / AIDS and thus having a dual advantage. [4, 5] Along with this, vasectomy techniques have been made simpler, cheaper and safer, making male sterilization a more attractive option, both for providers and users.

In the past family planning programs were just focusing on women instead of men. So, there is dearth of data pertaining to male's participation in family planning. Hence, an effort was undertaken to seek men's perception towards various contraceptive methods with emphasis on condom usage in slums of Chandigarh, India.

Methods

Study Settings: The study was conducted in UT Chandigarh, located in the northern part of India. According to the 2001 census, population of Chandigarh is 900,635. Out of the total population, urban population is 808,515, slum population comprises of 506,938 males and 393,697 females, with a sex ratio of 777 and population density of 7,900.

Study Design: A community based observational cross-sectional study.

Target Population: Males in slum setting whose wives were in the reproductive age group.

Sampling Design: Two-stage random sampling technique was used. In the first stage all the slums of UT Chandigarh were enlisted and randomly one slum was selected. Out of the total 26 slums, the slum randomly chosen was the largest slum of Chandigarh with a population of approximately 27,000 with 4,000 - 4,500 dwelling units. In the second stage, systematic random sampling technique was used. Every 7th house was visited and subjects who fulfilled the inclusion criteria were enrolled. The locked houses and people in those dwellings where subjects were not willing or were not fulfilling the inclusion criteria, were not taken into the study sample. Confidentiality was assured and informed consent was taken from the subjects after explaining the purpose of the study. In 592 households, 79 houses were locked.

Sample Size: A total of 402 respondents were interviewed by a trained team of social workers and interns. 111 were not willing to participate in the study, (46 had no time, 46 showed no interest and 19 felt uncomfortable over the subject). Study Instrument: A questionnaire for the study was especially designed to compile information relating to aims of study. Open ended and close ended simple questions were used to elicit information on the background characteristics of subjects like age group, education, occupation, marital

status and socio-economic status, family size preferences etc. Along with this their preferred method of contraceptive was asked Condom users were asked in detail about the place of procurement, problems with condom usage, satisfaction level etc. Appropriate statistical methods were used to analyse data using epi info and SPSS version 12.

Results

Socio-demographic characteristics of respondents are shown in Table 1. These were 402 respondents, with the maximum 178 (44.3%) belonging to the 31-40 years age group followed by 157 (39.1%) in the age group 21-30 years. A very low proportion 19 (4.7%) were educated above secondary level and 158 (39.3%) were either illiterate or just literate. Labourers represented the maximum 271(67.4%) respondents and there were a minimum 16 (4.0%) unemployed respondents. More than three-quarters of respondents were married and between 18-24 years of age. The majority of respondents 371 (92.3%) were of low socioeconomic category.

Table 2 presents attitude and practices regarding contraception. More than 1/3rd of subjects 141(35.1%) felt that husbands should use any method of contraception and 74 (18.4%) of them felt that their wives should use contraceptive methods. About 105 (26%) respondents were of the opinion that neither wife nor husband should use any methods of contraception. Awareness regarding contraception was found among 286 (71.1%) respondents, mostly through mass media. Only 97 (33.9%) had awareness regarding contraception from health workers. Other sources of awareness contributed a very small proportion. Condom 145 (36.1%) followed by OCP 91 (22.6%) came out to be most common choices. Permanent methods somehow were found to be preferred methods of contraception only in 23 (5.7%) respondents. Contraceptive prevalence rate came out to be 265 (65.9%) and condom was the most common method of contraception currently. There were 112 (44.3%)

Characteristics	No. (n = 402)	%
A. Age		
>20	10	2.5
21 - 30	157	39.1
31 - 40	178	44.3
41 - 50	53	13.2
Above 50	04	1.0
B. Education		
Illiterate/just literate	158	39.3
Middle	145	36.1
Secondary	80	19.9
Senior secondary	13	3.2
Graduate	06	1.5
C. Occupation		
Labourer	271	67.4
Business	65	16.2
Service	50	12.4
Unemployed	16	4.0
D. Age at Marriage		
Unmarried	24	6.0
<18	26	6.5
18 - 24	307	76.4
More than 25	45	11.2
E. SES		
Low	371	92.3
Middle	23	5.7
High	08	2.0
Overall	265	65.9

Table 1: Distribution of Respondents by Socio-Demographic Characteristics

users who were not satisfied with the use of current contraceptive method, whereas degree of satisfaction from condom among contraceptive users, was quite high.

Contraceptive prevalence rates by socio-demographic characteristics and methods of contraception are shown in Table 3. On the basis of bivariate analysis all the factors except age, like educational status ($P=0.003$), occupation ($P=0.01$), and SES ($P=0.03$) were significant correlates of contraceptive use. Condom use rate was found to be maximum in the 21-30 years age group where 68 (43.3%) respondents reported condom use. Other contraceptive methods were reportedly more popular among respondents aged 31-40

years. Overall increasing trends of both types of contraceptives were observed with educational status. Contraceptive prevalence rate (CPR) was least, 91 (57.6%) among illiterate / just literate respondents CPR and condom usage was found to be maximum 41 (82%) and 23 (46%) respectively within the service class. CPR was found to be maximum 21 (91.3%) within middle SES.

Out of the total subjects, 156 (38.8%) were using condoms. There were six respondents using more than one method of contraception. Among all respondents, 178 (44.3%) were aware of condoms and the majority 156 (87.6 %) of them were using condoms as shown in Table 4. Chemist shop came out to be the

commonest source of procurement of condom as reported by 98 (62.8%) of respondents followed by Health Centre by 74 (47.5%) respondents. Easy availability was the most common perceived reason in favour of condom usage in 124 (79.5%) respondents, other reasons being no side effects in 55(35.5%) and unwillingness of spouse for other method in 51 (32.7%) respondents. More than three quarters were satisfied 121 (77.6%) with its usage. Reasons reported for dissatisfaction by the rest of respondents were interference with sex sensation in 14 (48.3%) and risk of rupture of condom in 12 (41.3%).

Only 97 (62.2%) condom users were regular users making its use non-effective. Only 48 (30.8%) users were aware of its correct method of usage. According to 116 (74.4%) users, their wives were also satisfied by condom usage as a contraceptive choice. Prevention of HIV/AIDS by condom was known to 124 (79.5%) users while 28 (17.9%) were not aware of any disease preventable by using condom. High risk behaviour in terms of premarital sex and extra-marital sex was found to be among 39 (9.7%) and 22 (5.5%) of all respondents respectively. These practices were found to be most prevalent among respondents of aged 21-30 years (11.5% & 10.2%) less educated (15.2% & 8.3%).

Respondents of business class were reportedly more involved 8 (12.3%) in pre-marital sex act whereas extra-marital sex activity was reportedly highest among unemployed respondents 2 (12.5%). Both of these practices were more common among respondents of middle Socioeconomic status (SES) category. Condom users were found to be more involved in such type of behaviour / activities.

Factors responsible for condom use, and satisfaction from use of contraception were analyzed using logistic regression analysis, as shown in Table 6. Several potential factors were entered. However,

Attitude	Number	%
A. Who should use contraceptive (N = 402)		
None	105	26.1
Wife	74	18.4
Husband	141	35.1
Both	82	20.4
B. Awareness of contraceptives (N = 402)		
Yes	286	71.1
No	116	28.9
C. Source of awareness (N = 286)		
Mass media	179	62.6
Health worker	97	33.9
Friends	99	34.6
Relatives	29	7.2
Others	15	5.2
D. Preferred contraceptive method (N = 402)		
Condom	145	36.1
IUD	58	14.4
OCP	91	22.6
Vasectomy	04	1.0

Table 2: Attitudes and Practices Towards Contraception

for condom only SES and involvement in pre-marital sex activity came out to be significant factors in step-wise logistic regression analysis.

Premarital sex was the main factor associated with satisfaction from use of condom followed by middle or high socioeconomic status. Individuals belonging to high socioeconomic status other than low, and those who were involved with pre-marital sexual activity were found to be comparatively more satisfied with use of condoms.

For either of contraceptive use, the only significantly associated factor was age (below 30) of respondents. In all these three logistic regression models, all other variables not listed in the table had lost their significance.

$$\begin{aligned}
 1. \quad \log \left[\frac{P_1}{1-P_1} \right] &= -0.59 + 1.83 (\text{SES}) \\
 &\quad + 0.79 (\text{Premarital Sex}) \\
 2. \quad \log \left[\frac{P_2}{1-P_2} \right] &= 0.67 + 0.74 (\text{Premarital sex}) \\
 &\quad + 1.08 (\text{SES}) \\
 3. \quad \log \left[\frac{P_3}{1-P_3} \right] &= 1.23 + 0.55 (\text{Age})
 \end{aligned}$$

The following three logistic regression models were fitted (next column):-

Continued next page

Characteristics

Method of contraception

A. Age	Condom		Others		Total Users *	
	No.	%	No.	%	No.	%
< 20 (N = 10)	03	30.0	02	20.0	05	50.0
21 - 30 (N = 157)	68	43.3	35	22.3	96	61.1
31 - 40 (N = 178)	71	39.9	60	33.7	130	73.0
41 - 50 (N = 53)	14	26.4	17	32.1	32	60.4
Above 50	0	0	01	25.0	02	50.0

$$\chi^2 = 7.9 \quad P = 0.09$$

B. Education						
Illiterate/just literate (N - 158)	55	34.8	41	25.9	91	57.6
Middle (N = 145)	56	38.6	45	31.0	98	67.6
Secondary (N = 80)	35	43.8	24	30.0	62	77.5
Senior secondary (N = 13)	06	46.2	05	38.5	10	76.9
Graduate (N = 06)	04	66.7	0		04	66.7

$$\chi^2 = 18.1 \quad P = 0.003$$

C. Occupation						
Labourer (N = 271)	101	37.3	70	25.8	168	62.0
Business (N = 60)	27	41.5	18	27.7	48	73.8
Service (N = 50)	23	46.0	22	44.0	41	82.2
Unemployed (N = 16)	0.5	31.2	05	31.2	08	50.0

$$\chi^2 = 12.7 \quad P = 0.01$$

D. SES						
Low (N = 371)	132	35.6	109	29.4	239	64.4
Middle (N = 23)	20	87.0	03	13.0	21	91.3
High (N = 08)	04	50.0	03	37.5	05	62.5
Overall (N = 402)	156	38.8	115	28.6	265	65.9

* There were 06 respondents using more than one contraceptive method.

Table 3: Use of Contraceptives by Socio-Demographic Characteristics

(continued from previous page)

Where	P1	= Proportion of respondents using condom
	P2	= Proportion of respondents satisfied with condom use
	P3	= Proportion of respondents satisfied with any method of contraception they were using
	SES	= 1, if SES is middle/high 0, otherwise
	Premarital sex	= 1, if involved in pre-marital sex act 0, otherwise
	Age	= 1, if age above 30 0, otherwise

Attitude	No.	%
A. Awareness regarding condom (N = 402)		
Aware	178	44.3
Not aware	224	55.7
B. Use of condom (N = 402)		
Users	156	38.8
Non-users	246	61.2
C. Place of procurement* (N = 156)		
Health centre	74	47.5
Chemist shop	98	62.8
Grocery shop	02	1.3
No response	14	8.9
D. Reasons for preference (N = 156)		
Easy availability	124	79.5
No side effects	55	35.3
Spouse unwilling	51	32.7
Others	03	1.9
No response	17	10.9
E. Satisfaction (N = 156)		
Yes	121	77.6
No	29	18.6
No response	06	3.8
F. Reasons for dissatisfaction (N = 29)		
Interferes with sex	14	48.3
Danger of slipping	02	6.9
Risk of rupture of condom	12	41.3
No response	07	24.1
G. Regular users (N = 156)		
Yes	97	62.2
No	36	23.1
No response	23	14.7
H. Perceived satisfaction of wife (N = 156)		
Yes	116	74.4
No	31	19.9
No response	09	5.8
I. Prevention against other diseases (N = 156)		
HIV/AIDS	124	79.5
STDs	45	28.8
Do not know	28	17.9

* multiple responses

Table 4: Knowledge, Attitude, and Practice Of Male Contraception

Characteristics	Pre-marital sex		Extra-marital sex	
	No.	%	No.	%
A. Age				
< 20 (N = 10)	01	10.0	0	9
21 - 30 (N = 157)	18	11.5	16	10.2
31 - 40 (N = 178)	19	10.7	05	2.8
41 - 50 (N = 53)	01	1.9	01	1.9
B. Education				
Illiterate/just literate (N = 158)	10	6.7	07	4.7
Middle (N = 145)	22	15.2	12	8.3
Secondary (N = 80)	07	8.8	02	2.5
Senior secondary (N = 13)	0	0	0	0
Graduate (N = 06)	0	0	01	16.7
C. Occupation				
Labourer (N = 271)	27	10.0	18	6.6
Business (N = 65)	08	12.3	01	1.5
Service (N = 50)	04	8.0	01	2.0
Unemployed (N = 16)	0	0	02	12.5
D. SES				
Low (N = 371)	39	8.4	14	3.8
Middle (N = 23)	08	34.8	08	34.8
High	0	0	0	0
E. Current Method of contraception				
Condom (N = 156)	21	13.5	12	7.7
Other methods (N = 115)	12	10.4	07	6.1
None (N = 137)	06	4.4	03	2.2
Overall (N = 402)	39	9.7	22	5.5

Table 5: Sexual Behaviour of Respondents by Socio-Demographic Characteristics

Significant factor	Regression coefficient β	Adjusted OR	95% CI	P value
A. Condom use				
Middle/High SES	1.83	6.21	1.26 - 14.79	P < 0.001
Premarital sex	0.79	2.21	1.13 - 4.31	P = 0.02
Constant	-0.59	0.55		
B. Satisfaction from condom use				
Premarital sex	0.74	2.08	1.05 - 4.15	P = 0.04
Middle/high SES	1.08	2.67	1.22 - 5.78	P = 0.01
Constant	0.67	1.95		
C. Satisfaction from other contraceptive				
Age	0.55	1.74	1.11 - 2.75	P = 0.016
Constant	1.23	0.28		

Table 6: Logistic Regression Analysis of Factors Affecting Contraception

Discussion

Preference for usage of contraceptive to limit family size is more or less decided by the male partners especially in less developed countries like India. Our study showed that contraception use rate was more than 50%, and out of these almost half were condom users. Another study done in same population showed the condom usage to be 31% that increased to 70% after intervention in Chandigarh.[6] But the results were in contrast to the study done in Tanzania[7] and Yorubas[8] that showed that though the awareness about condoms was high, the usage was less.

More than one third of subjects affirmed the usage of OCP's and IUCD by their spouse for family planning, which was comparable to NFHS-3 data.[9] Females outnumbered males in sterilization. The study done in Orissa showed that almost half of the subjects were using some family planning methods and 1/3rd of them relied on traditional method of contraception (LAM Safe Period).[10] In the rest of respondents female sterilization predominated.

In spite of many Government initiatives taken for family planning, a sense of hesitancy was observed in subjects in procuring condoms.[11] The majority of them procured condoms from the chemist shop instead of getting them from a health centre. Only 1.3% were obtaining them from grocery shops. One major reason for a smaller percentage of people buying them from grocery shops can be ignorance, as most of people staying in slums have migrated from underserved states where reproductive and health facilities are not reaching the masses. Another interesting finding was that the wives were obtaining condoms during the days of under five clinic in our health center instead of husbands. Maharaj's qualitative work also revealed that profound embarrassment was found regarding condom procurement, [12]

that's why subjects procured them either at night or away from their neighbourhood. This highlights the importance of government initiatives in installing the vending machines at different places for easy availability and privacy. In our study more than 1/3rd of husbands felt that contraceptive measures can be used by males also and this supports the fact that male interest in family planning affairs is increasing.[2] Preference for condom usage was found in 1/3rd of subjects. The main reasons for using condoms among condom users, were easy availability and no side effects. These results corroborate with that of the Mitra and Mitra study. [13] Varied responses were given for dissatisfaction with condom usage. Interference with sex sensation predominated among those, followed by danger of breakage; similar findings were evident in other studies. [14, 15]

Undoubtedly, Condom access and promotion should go hand in hand. They should be available not only in health centers but also at hotels, bars and grocery shops. In this sphere an initiative was taken by UT administration by opening of a condom bar to create a positive image of condom usage portraying them as fun, reliable and important. They can be made available at standardized prices at retail shops through social marketing.

It was found that 3 quarters of females were satisfied with condom usage as per the husband's opinion. This finding may be owing to the fact the females were not interviewed about the same during the survey. Another finding so evident in the study done in Bangladesh was that when males were decision makers they preferred the male method of contraception irrespective of spouse's approval.[16]

More than 3 quarters of the subjects were aware of the uses of condoms such as prevention of HIV/AIDS and around 30% were knowledgeable about prevention against STD's. The same findings were obtained

from a study done by Meekers and Rahaim. [17] Similarly a study from India has shown that people have a fairly good knowledge because of increased exposure to various media.[10] The various steps of condom usage that includes correct method of usage and disposal were reported by almost 30% of subjects. This implies the importance of making them aware of the correct method. These results were similar to that of a study done by Bhatia et al. [6] Efforts to increase condom use are a good social, economic and health investment, but if only knowledge about it increases this won't lead us to achieve our target. Communication campaigns and community health programs can help to make a positive image of condom use. World wide condom usage ranks near the bottom among contraceptive methods used by married couples. This can be assessed from the fact that in Japan the number of married couples who are relying on vasectomy as mode of sterilization equals that of 1/5th of the number of married couples worldwide. [18] In India, condom use declined from about 5% in 1988 to about 2% in 1994 but most of the data is based on surveys done in women of reproductive age group only.

Conclusions

Authors concluded that men are showing keen interest in reproductive health matters and being the prominent decision-makers they should be the suitable targets for coordinated and strategic family planning programs. Everyone, government, international agencies, non-governmental organizations social marketing programs, individual health care providers, educators and communicators should contribute in promoting their participation.

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Gender Inequality: The Role of Social & Cultural Factors in the Families of Gonbadekavous City

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ABSTRACT

Introduction: Gender inequality is one of the social phenomena found in human societies through which men dominate women and in most cases men and even women, through socialization, accept their superior and inferior status. This research aims to study and identify the role of some social factors, including the instrumental role, functional role, and the ideology of patriarchy and cultural factors, such as gender socialization, educational role, and cultural capital on gender inequality among Iranian families.

Method: The present research is mainly based on survey method. The major means of gathering data is questionnaire. The population of this research is comprised of the employees in the city of Gonbadekavous in the north of Iran. The sample population is 400.

Results: The findings suggest that gender inequality evidently exists, and the most significant factors influencing gender inequality in Iranian families are gender socialization, functional role, patriarchy ideology, cultural capital, and educational role, respectively, which accounts for 97.5% of the dependant variable.

Conclusion: Regarding the findings of this research, it seems that for decreasing gender inequality in the family, the civil law and the stereotyped beliefs of the society, especially men towards women, must be changed.

Keywords: Gender inequality, family, gender socialization, instrumental role, functional role, patriarchy, cultural capital, educational role.

Introduction

Gender inequality is a kind of social segregation, i.e., division of positions, but any segregation is not equivalent to inequality. Therefore, segregation of men from women does not mean priority of one sex over the other, but at the same time, social segregation is an important step towards inequality. Gender inequality refers to the differences between men and women in receiving social and economic advantages which is often to the benefit of men at the expense of women, which means men take superiority over women. In different societies, gender involves certain social and cultural characteristics which give shape to inequality in facilities, privileges, and positions. "Gender inequality means inequality

between men and women in accessing the existing resources" (1). Any kind of behavior, policy, language, and other actions that represent a fixed, comprehensive, and institutionalized view in regard to women as inferior beings, means gender inequality (2).

The issue of gender inequality is extremely intermingled with value disparities, because people define equality and inequality based on their social and economic status, as well as their beliefs and opinions.

Gender inequality includes "lack of rights of women to participate in political activities, equal wage of men and women for equal amount of work, unequal opportunities in access to educational facilities, lack of participation in the decision-making of the family, and inequality in civil rights" (3). Some people believe that the disparities between men and women are due to physical traits which it seems that in modern society it doesn't play a substantial role in gender inequality, instead, political, cultural, social, and economic traits seem to be decisive. "Feminist disparity approach insists on the sex which is a sheer biological subject, while feminist unequal approach looks at the matter as including psychological, social, and cultural components" (4). Gender inequality is theoretically indicative of the differences existing in the access of men and women to the opportunities and resources such as power, and the priority of men in the access to facilities and is practically evaluated in regard to indicators such as male-dominated society, dichotomous sexual nature of laws, and sexual priority of men over women in the social participation domain" (5).

In respect to gender inequality, feminism, functionalism, Marxism, and modernization theories voiced different opinions. Feminists have various interpretations in respect to gender inequality. Marxist feminists

mainly take ownership and economy responsible for gender inequality. From radical feminists' point of view, inequality and oppression of men on women is caused by patriarchy which is itself resulted from division of labor in the family. Socialist feminists assume both patriarchy and capitalism as the source of oppression on women. Thus, gender inequality results from a patriarchal system and capitalist system, that is, a capitalist system along with a patriarchal system gave rise to the domination of men on women. Liberal feminists put a special importance on the amendment of laws for decreasing gender inequality, because laws have been mainly made in favor of men and to the detriment of women.

Functionalists presume the difference between men and women an inherent issue which must not be changed (6); that seems illogical and irrational, although it is a bitter reality and undeniable. Functionalists see the dominance of men over women as something indispensable which provides balance, stability, and consistency in the family, because otherwise the family will fail to perform its proper functions.

Marxists argue that the main cause of gender inequality is the economy. In their view, economic inequality is the origin of gender inequality. Thus, men, with higher salary and earnings for the family, have the upper hand over the women, and the more the women are well off economically, the less will be the said inequality between men and women, and "when men would have the superior status that women have the inferior, and the present gender function patterns let men to preserve their political, social, and economic advantages, the dominant group benefits from the existing condition and is not willing to change it (7).

In the view of Marx, self-alienation makes women more suppressed, "the simplest configuration of alienation is indicative of the relation between the work which a woman does and the outer system which suppresses her, in a way that if she were to work harder, it will

lead to the reinforcement of the system which suppresses her (8). Therefore, bipolarization of this world and division of labor between them, further gender inequality.

Thus, contrary to functionalism, Marxism opposes inequality. However, "the view of Marxism to the hierarchical structure of society is based on the class, and the class is also defined in relation to the means of production. Gender has nothing to do in this classification and this theory obviously disregards the hierarchical relationship between men and women inside the home as well as in the public. As such, feminism regards Marxism as a male-centered theory " (9).

Modernization and development set the ground for sexual division of labor. Modernization caused extended family to be replaced by nuclear family, the very fact that caused division of labor inside the family. Owing to their physical traits and procreation, women were driven toward housework, and men for the sake of production inclined to outdoor works. "In the process of modernization, the technological innovations reduced the biological imbalances between men and women and women found the opportunity to release themselves from housework and enter into job markets (10). Modernization and development, and nuclear family and technological innovations have undeniable effects on gender inequality in families.

In the view of Cott, home is the place of woman as housekeeper. Momsen, too, recognizes social biases as important in gender inequality. In the majority of research, demographic factors, such as race, ethnicity, age, and income were emphasized (11). In the research conducted by Huber & Spitze, "socio-economic elements, like occupational position, education, income, and age of couples had great impacts on the form of division of labor in the family (12). According to Gazso-Windle and McMullin, elements like economic, social, and demographic features of individuals

have an impact on the manner of power sharing of spouses inside the family and affect the manner of their participation in home affairs (13).

Therefore, with the employment of women, their share in family decision-making increases (14), and the income of the head of household is effective in family decision-making. "With the increase in the income of the head of household, the power of men at home decreases (15), and in the villages, with the increase in the amount of land and livestock of women, their involvement in family decision-making increases (16). With relative increase in the family welfare, the role of women in family decision-making increases (17), and also the social status of the wife's family is effective on her family decision-making. Women living in nuclear families, due to enjoying more independence, have a better status in the family than women living in extended families, and as a result, their participation in family decision-making increases (15).

Method

The present research is mainly based on survey method, and the major means of gathering data is questionnaire. The statistical population of this research is comprised of the employees of the city of Gonbadekavous, northern city of Iran, in different sectors. The quantity of the sample population is 400, and the random sampling method was used. For establishing the reliability of the research tool, Cronbach's Alpha was used, which indicates the perpetuity of the research tool.

The present research aims to study and identify the role of functional, and ideological variables of patriarchy, gender socialization, the role of education and cultural capital on gender inequality among Iranian families. In other words, this research aims to investigate the role of certain social and cultural factors on gender inequality in the family. Therefore, this research seeks to answer the following questions:

- 1- What is the view of men and women to gender inequality in the family?
- 2- What are the major social and cultural factors effective on gender inequality in the family?
- 3- Which variable can explain the dependent variable better than other variables?

For answering these questions, the following hypotheses were proposed for evaluating the correlation and explaining the variables:

- 1- Instrumental role is effective on gender inequality in the family.
- 2- Functional role is effective on gender inequality in the family.
- 3- Patriarchic ideology is effective on gender inequality in the family.
- 4- Gender socialization is effective on gender inequality in the family.
- 5- Educational role is effective on gender inequality in the family.
- 6- Cultural capital is effective on gender inequality in the family.

Results

In this research, 400 employees in the city of Gonbedekavous were studied, out of which 36% were employed in the cultural sector, 37.8% in the service sector, and 26.3% in the agricultural sector. A majority of them are under 42 years of age, that is, 24% of respondents are between 22 to 32 years of age, and 48% were between 33 to 42 years of age, who are accountable for 72% of the statistical population. Therefore, it can be said that the people under the study are mainly young with higher education degrees. According to the statistics, 32 percent of respondents have high school diploma and below, and 68 percent have university degrees. Regarding the different ethnic groups who live in the city, the research society, too, involves different ethnic groups.

In this research, 39.5% of the respondents are Fars and 40.5% are Turkeman, which is totally

point	number	percent
-6	23	6.0
-5	19	4.8
-4	45	11.3
-3	45	11.3
-2	45	11.3
-1	67	17.1
0	24	6.0
1	38	9.5
2	36	9.0
3	37	9.3
4	8	2.1
5	7	1.8
6	5	1.3
cumulative	400	100

Table 1: Distribution of respondents in terms of gender inequality in the family

accountable for 80% of the sample population, and 10.5% are Turks, 8% are comprised of Sistani migrants, and 1.8% are from other ethnic groups.

For evaluation of gender inequality as a dependent variable, indicators of trust to wife, cooking of husband, consulting with wife, the role of wife in creating balance in family, freedom of occupation, housecleaning, wife's assertiveness, showing respect to wife, doing laundry, and caring for children, which were devised by the researcher, have been used for the survey. According to the results, gender inequality grade of 30, was considered zero, and accordingly, grades above 30 represented less inequality, and below 30 represented more inequality at home, and 6% of respondents had a moderate view to gender inequality in the family, the grades of 61% of respondents were below zero and grades of 33% of them were above zero which is indicative of gender inequality in the family in favor of men, because, with the increase of grades below zero, gender inequality against women increases.

The instrumental role of this research was measured with indicators of main source of

income, person responsible for expenses, open atmosphere, case of consultation, and election of parliament member, the main source of family income lies with men, because 64.5% knew men as the main source of family income and 4.3% knew women, and the responsibility of family expenses in 63.8% of cases lies with men, while the role of women is 8%, therefore, although men are assumed to be the main source of the family income, the responsibility for expenses is often attributed to other members of the family, especially women. In creating an open atmosphere at home, 38% ascribed this role to men, and 12.8% ascribed it to women, 27% mentioned men and 15.3% mentioned women as the basis for consultation that men play a more significant role in consultation.

The results of correlation test indicate that their relation with gender inequality as a dependent variable is on the probability of 99% meaningfulness and the significance level of the instrumental role variable is 0.000.

With regard to the results of Table 2, the amount of R2 or the specified coefficient equals to 0.117 which indicates that 11.7 percent of

indicative	Beta	T	sig
main source of income	0.145	2.668	0.008
responsible for expenses	0.101	1.864	0.063
open atmosphere	0.131	2.589	0.010
consultation	0.192	3.783	0.000
parliament member	-0.058	-1.106	0.270
impact extent	R =0.342	R ² =0.117	R ² _{Ad} =0.106
regression	df =5	F =10.413	sig= 0.000

Table 2: The role of key variables on gender inequality in the family

indicative	Beta	T	sig
functional necessity	-0.004	-0.083	0.934
accord and stability	0.182	3.339	0.001
sharing of duties	0.281	5.899	0.000
principal management	-0.042	-0.754	0.451
impact extent	R =0.335	R ² =0.112	R ² _{Ad} =0.103
regression	df =4	F =12.499	sig= 0.000

Table 3: The role of functional variable on gender inequality in the family

changes of dependent variable is explained by instrumental role variable. Calculation of one-sided variance or ANOVA, too, shows the meaningfulness of regression and linear relation, because the calculated significance level equals to 0.00.

The functional role in this research was measured with the indicators of functional necessity, accord and stability, sharing of duties and principal management. The functional role, as one of social variables, is measured by four indicators. Respecting the necessity of men's management, 6.8% know women responsible for this duty and 54.8%, also, know the management at home as a necessity for men and women. Most of the

respondents know men as the principal head of the household, because 55.8% suggested men and 9.3% suggested women as the principal decision-maker of the family, and non-important decisions are usually made by women, and important decisions are made by men. With regard to the role of management in the stability of family, 15.5% proposed men as decisive in family stability, respecting sharing of duties, too, 17.8% chose the option of women and 12.5% chose the option of men.

The results of correlation test suggest the relation between functional necessity, accord and stability, sharing of duties, on the probability of 99% and the principal management on the

probability of 95% with gender inequality as a dependent variable meaningfulness, and the significance level of the most of the functional role indicators is 0.00, which shows the high correlation of instrumental role variable with gender inequality in the family.

With regard to the results of Table 3, the specified coefficient (R²) equals to 0.112 which indicates that 11.2 percent of changes of dependent variable is explained by functional role variable. Calculation of ANOVA, too, shows its meaningfulness with the level of 0.000.

In this research, gender was measured by such indicators as happiness from the birth of girl

indicative	Beta	T	Sig
happiness from the birth	0.020	0.384	0.701
expectation of boys	0.004	0.089	0.929
independence of girl	0.381	7.447	0.000
control emotions	-0.177	-3.120	0.002
extent of attention to girls	-0.001	-0.020	0.984
supervision over boys	0.145	2.647	0.008
impact extent	R=0.407	R ² =0.166	R ² _{Adj} =0.153
regression	df =6	F=13.017	sig =0.000

Table 4: The role of gender variable on gender inequality in the family

indicative	Beta	T	Sig
emotional function	0.161	3.283	0.001
inherent view	-0.260	-4.760	0.000
family customs	-0.011	-0.182	0.856
family tradition	-0.028	-0.451	0.652
social values	-0.049	-0.972	0.110
family law	0.083	1.603	0.332
impact extent	R=0.327	R ² =0.107	R ² _{Adj} =0.094
regression	df =6	F=7.859	sig =0.000

Table 5: The role of patriarchy variable on gender inequality in the family

indicative	Beta	T	sig
women personality in movies	0.270	2.861	0.004
Women personality in TV	-0.096	-1.006	0.315
education system	-0.079	-1.220	0.223
textbooks	0.135	2.140	0.033
impact extent	R =0.221	R ² =0.049	R ² _{Adj} =0.039
regression	df =4	F =5.059	sig= 0.001

Table 6: The role of educational role variable on gender inequality in the family

expectation through boys, independence of girl, encouragement of boys to control emotions, extent of attention to girls, and supervision over boys. Undoubtedly, indicators of gender is one of factors affecting gender inequality in the family. For understanding the role of this variable, 6 indicators of happiness from birth, expectation, independence, emotion control, attention, and supervision were used. According to statistical data, 72.8% of respondents expressed that they are happy by the birth of boys and the remaining 27.3%, too, by the birth of girls, and that their expectation from boys is more than girls. Data suggests that 74.3% of the respondents have more expectations from boys and 25.7% have more expectations from girls. With regard to the variable of giving independence to children, 90% of respondents said that boys must be given independence, and the remaining 10%, too, insisted on giving independence to girls and often encouraged girls to control their emotions. According to the statistics, 37.3% encouraged boys, and 62.8% of respondents encouraged girls to control their emotions and, also, respondents paid more attention to boys than girls, since, 70% of them paid more attention to boys and 30% paid attention to girls, and vice versa, exercised more supervision over boys, in such a way that, according to the statistics, 42% exercised more supervision over boys, and 58%, too, exercised more supervision over girls.

The results of correlation test suggest the relation between gender and the dependent variable meaningful. With regard to the results of Table 4, the amount of R2 or the specified coefficient equals to 0.166, which indicates that 16.6 percent of changes of dependent variable is explained by gender variable. Calculation of ANOVA, too, shows the meaningfulness of regression and linear relation, because the significance level equals to 0.00.

In this research, the idea of patriarchy was measured with such indicators as family customs and tradition, social values, emotional function, family law, and inherent view.

The results of correlation test suggest that their relation with gender inequality as a dependent variable is meaningful on the probability of 99%. The calculated significance level is 0.00, which shows the high correlation of patriarchy variable with gender inequality in the family.

With regard to the results of Table 5, the amount of R2 or the specified coefficient equals to 0.107, which indicates that 10.7 percent of changes of dependent variable is explained by patriarchy variable. One-sided variance, too, shows the meaningfulness of regression and linear relation, with the significance level of 0.000.

In this research, educational role was measured with indicators of women's personality in movies and TV programs, education system, and textbooks. Educational role, as a key cultural variable, is evaluated with four indicators. According to this study, 3% of respondents believe that movies display an over-weakened personality of women, and 7.8% expressed it very much, 8.3% very little, and 9.5% very little, and 42.3% of answers were expressed in moderate level. Also, women enjoy the same status in TV series as in movies, in such a way that 32.5% of respondents stated that underestimation of women's personality in TV series is high, 7% very high, and, on the contrary, 7% stated it very little and 12.5% little, and 40.8%, too, stated in moderate level. Education system and textbooks play a significant role in underestimating women. Statistical data suggests that 35.5% of respondents know the role of education system in underestimation of women high and 10.8% know it extremely high, and for textbooks these figures stand

at 29% and 6%, respectively. 7.5% of respondents knew the education system in underestimation of women very little and 15.8% knew it little blamable, and 30.5%, too, knew the failure of education system in a moderate level. But, 10% knew textbooks very little and 20% knew it little blamable, and 35%, too, put a moderate blame on textbooks for underestimation of women.

The results of correlation test indicate that the relation between educational role and gender inequality as a dependent variable is on the probability of 99% meaningfulness and the significance level of the variable is 0.000.

With regard to the results of Table 6, the amount of R2 or the specified coefficient equals to 0.049 which indicates that 4.9 percent of changes of dependent variable is explained by educational role variable. Calculation of ANOVA, too, shows its meaningfulness with meaningful level of 0.001.

In this research, cultural capital was measured with indicators of respondents' education, women's education, education of wife's family, and unequal marriage. Cultural capital, as a key cultural variable, is evaluated with four indicators. The first indicator is education. Statistical data indicates that most respondents knew the education of men higher than other family members. In other words, 50.5% of respondents indicated the education of men higher than other family members, 16% indicated the education of women higher than other family members, and 28% indicated the education of both men and women, and in 5.5% of cases, other family members enjoyed higher educational level than respondents. The education of 8% of respondents relative to their mates was very lower, 12% lower, 37% equal, 41% higher, and 9.3% very higher. Respecting the wife's family education, too, in 50.3% of cases, brothers enjoyed the highest level of education, next were sisters with 27.3%, fathers with 9.8%, and mothers with 4% occupied the next

ranks, and in 8.8%, too, other family members enjoyed higher educational level than the rest. The educational level of women's families in 53.3% of cases is equal to that of men's family, which indicates that families are not of outstanding cultural disparity, and educational level of wife's family in 20.8% was higher, 7.8% very higher, and in 1.8 very lower, and in 16.5% of cases was lower, as compared with educational level of men's families. In 58.8% of cases, families described themselves similar in terms of cultural, social, and economic status, which is roughly comprised of two thirds of sample society, and 25.8% of respondents stated women's families of higher status and 6% stated it very higher, and on the contrary, 1.8% very lower and 7.8% lower. Therefore, statistics suggest that respondents usually live with families of equal or superior status, and rarely enter into conjugal life with inferior families. That is, 31.8% of individuals married with individuals of superior status and 9.6% conjugated with individuals of inferior status.

The results of correlation test indicate that their relation with gender inequality as a dependent variable is on the probability of 99% meaningfulness.

With regard to the results of Table 7, the amount of R2 or the specified coefficient equals to 0.061 which indicates that 6.1 percent of changes of dependent variable is explained by cultural capital variable. Calculation of ANOVA, too, shows its meaningfulness with meaningful level of 0.000.

So, the variables of instrumental role, gender socialization, functional role, patriarchy ideology, cultural capital and educational role showed a meaningful relation on the level of 99% with the dependent variable, and were effective on it. The role of social factors the variables of instrumental role, gender socialization, functional role and the role of cultural factors through the variables of Patriarchy ideology,

educational role, cultural capital on gender inequality in the family were directly measured. Table 8 indicates that the amount of R2 or the specified coefficient of the studied variables is equal to 0.612 which shows that 61.2% of changes of dependant variable can be explained by the said variables and the role of gender socialization with R2 or the specified coefficient of 0.166, is most influential, and the variables of instrumental role, functional role, patriarchy ideology, cultural capital, and educational role with coefficients of 0.117, 0.112, 0.107, 0.061, and 0.049, respectively, occupy the next places, so, the role of social variables are more than cultural variables, because, according to statistics, the role of social variables in explaining dependent variable is 39.5% and the role of cultural variables is 21.7% in this regard.

For indirect evaluation of independent variables on the dependent variable, beta coefficient was used. In the first phase, the direct effects of independent variables on the dependent variable were measured by beta coefficient, the results of which show that beta coefficients of patriarchy ideology and instrumental role with 0.255 and 0.218, respectively, had the greatest effect on the dependent variable, and the variables of functional role with 0.141, cultural capital with 0.123, gender with 0.078, and educational role with 0.060 occupy the next places. In the second phase, the indirect effects of gender on gender inequality were measured which according to Table 9, its beta coefficient stands at -0.004, and in the aggregate, the direct and indirect effects of the variable of gender on the dependent variable register 0.074, which indicate that 7.4% of the dependent variable can be explained by gender. In the third phase, the indirect effects of the instrumental role on gender inequality were measured which according to Table 9, its beta coefficient stands at 0.043, and in the aggregate, the direct and indirect effects of the variable of instrumental role register 0.261 which indicate that 26.1%

of the dependent variable can be explained by the instrumental role.

In the fourth phase, the indirect effects of functional role on gender inequality were measured, which according to Table 9, its beta coefficient stands at 0.060, and in the aggregate, the direct and indirect effects of the variable of functional role on the dependent variable register 0.201 which indicate that 20.1% of the dependent variable can be explained by functional role. In the fifth phase, the indirect effects of educational role on gender inequality were measured, which according to Table 9, its beta coefficient stands at 0.001, and in the aggregate, the direct and indirect effects of the variable of educational role on the dependent variable register 0.061 which indicate that 6.1% of the dependent variable can be explained by educational role. The variables of patriarchy ideology and cultural capital were not indirectly effective on the dependent variable, so, their direct effects are 0.255 and 0.123 respectively, that is, the role of patriarchy ideology in the explanation of the dependent variable is 25.5% and this figure for cultural capital stands at 12.3%.

Finally, beta coefficient of the direct effects of the variables of instrumental role, functional role, gender, patriarchy ideology, educational role, and cultural capital is 0.875 and their indirect effects are 0.100, which indicates that 10% of the dependent variable was indirectly and 87.5% was directly influenced by dependent variables, that instrumental role with beta coefficient of 0.261 has the highest share after which patriarchy ideology with beta coefficient of 0.255, and variables of functional role, cultural capital, and gender with beta coefficients of 0.201, 0.123, and 0.074, respectively, occupy the next places and the least effect goes to educational role with beta coefficient of 0.061. So, in general, direct and indirect effects with beta coefficients are equal to 0.975 which indicates that 97.5% of the dependent variable is explained by the studied

indicative	Beta	T	sig
education	-0.166	-3.341	0.001
women education	-0.021	-0.418	0.676
education of wife	0.080	1.600	0.110
unequal marriage	0.127	2.577	0.010
impact extent	R =0.247	R ² =0.061	R ² _{Adj} =0.051
regression	df =4	F =6.604	sig= 0.000

Table 7: The role of cultural capital on gender inequality in the family

variables	df	F	sig	R	R ²	R ² _{Adj}
Instrumental role	5	10.413	0.000	0.342	0.117	0.106
Gender Socialization	6	13.017	0.000	0.407	0.166	0.153
Functional role	4	12.499	0.000	0.335	0.112	0.103
Patriarchy ideology	6	7.859	0.000	0.327	0.107	0.094
Cultural capital	4	6.604	0.000	0.247	0.061	0.051
Education role	4	5.059	0.001	0.221	0.049	0.039

Table 8: The independent variables on gender inequality in the family

variables. In other words, 97.5% of the aggregate changes of the dependent variable can be explained by the analytical diagram (Diagram 1 - next page).

Conclusion

Despite efforts of international organizations, including Convention of Non-Discrimination against Women, gender inequality in the family is an undeniable reality in the developing society, and this research aims to identify the role of factors effective on it, and the minimum condition required for improving their status.

The comparison of respondents' grades in the ten indicators of gender inequality in the family indicates the existence of gender inequality in the family in favor of men.

For explanation of gender inequality, a theoretical model was used through which the role of social factors was measured by the variables of instrumental role, functional role, gender, and the role of cultural factors was measured by the variables of patriarchy ideology, educational role, and cultural capital on gender inequality in the family directly, that the role of social factors is 39.5% and the role of cultural factors stands at 21.7%. For the

indirect measurement of social and cultural factors, too, the theoretical model of the research was used, that the direct role of social and cultural variables with the use of beta coefficients is 87.5% and their indirect role is 10%, which, in general, 97.5% of dependent variable is the result of direct and indirect effects of independent variables.

The results of the present study are consistent with some theoretical approaches, especially functionalism, and with results of some domestic and foreign studies, as well. In the theory of functionalism, instrumental role, functional role, gender, patriarchy

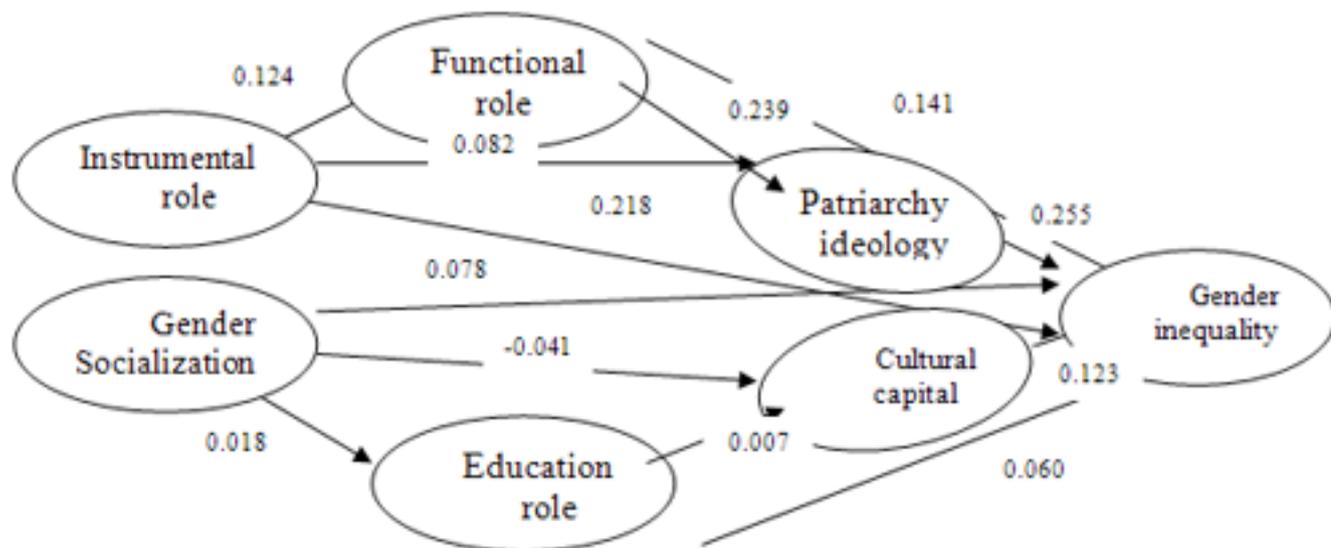


Diagram 1- Direct and indirect effect of independent variables on dependent variable

ideology, educational role, and cultural capital were cited as effective factors on gender inequality, which is consistent with the studies conducted by Talcot Parsons, Durkheim, Davis and Moore, Edgel, Huber and Spitze. Therefore, the Functional approach plays an important role in explaining the dependent variable.

Regarding the findings of this research, it seems that for decreasing gender inequality in the family, the civil law and the stereotyped beliefs of the society, especially men, towards women must be changed; arrangements for the study of women in the higher education level must be made; unequal marriage must be reduced; as to cultural programs, including movies and textbooks, serious efforts must be made to pay equal attention to women with men; also, employment and improvement of economic condition of women can be helpful in their independence and advancement of their role in the family.

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