Maternity Patient Out of Pocket Expenditures in Obstetric and Gynecology Department at Kasr Al-Ainy

Thesis
Submitted for Partial Fulfillment of Master Degree in Public Health and Community Medicine

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بسم الله الرحمن الرحيم

"يرفع الله الذين آمنوا منكم والذين آمنوا أوثنا العلم
درجاتٍ وآلهُ بما تعملون خيرًا"

صدق الله العظيم

[المجادلة ١١]
ABSTRACT

Objectives: This study investigated a) the amount and types of out of pocket expenditures by maternity in-patients at one of the Obstetric and Gynecology departments of Kasr Al- Ainy Teaching Hospitals, b) the factors influencing these expenses, c) the burden of these expenses and d) possible coping strategies sought by households of maternity in-patients.

Methods: All females aged 15-49 years were identified for inclusion in the study sampling frame. A simple random sample of 300 females was selected from this sampling frame. Patients were interviewed with a semi-structured, in-depth questionnaire.

Results: All interviewees incurred substantial out-of-pocket expenditures for travel, hospital admission fees, medicine, tests, food, and tips. Only two of the expenditures, travel expenses and admission fees, were not supposed to be provided free of charge by the hospital. The median total per-patient expenditure was L.E 235 (range L.E 3–L.E 5574). One third of all patients reported that their families had to borrow to pay for care at interest rates of 0%. 3.3% of these families reported selling jewelry, livestock or household items. The rural patients expenditures were higher than the urban patients. Factors increasing the expenditures were duration of hospitalization, rural residence, and necessary (e.g. C-section) medical procedures.

Conclusion: Free maternity services in Egypt impose large out-of-pocket expenditures on patients. Authorities could reduce the burden by reducing the duration of hospital stays, limiting use of medical procedures, eliminating tips, and moving routine services closer to potential users.

Key Words: out of pocket expenses, catastrophic expenses, health financing.
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<tr>
<td>CAPMAS</td>
<td>Central Agency of Public Mobilization and Statistics</td>
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<tr>
<td>CBA</td>
<td>Cost-Benefit Analysis</td>
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<td>CCTs</td>
<td>Community Based Controlled Clinical Trials</td>
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<td>CDC</td>
<td>Center for Disease Control and Prevention</td>
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<tr>
<td>CEA</td>
<td>Cost-Effectiveness Analysis</td>
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<tr>
<td>DHS</td>
<td>Demographic and Health Survey</td>
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<tr>
<td>EDHS</td>
<td>Egypt Demographic Health Survey</td>
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<tr>
<td>HHEUS</td>
<td>Household Health Expenditure and Utilization Survey</td>
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<td>HIO</td>
<td>Health Insurance Organization</td>
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<td>HTA</td>
<td>Health Technology Assessment</td>
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<td>MDGs</td>
<td>Millennium Development Goals</td>
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<tr>
<td>MENA</td>
<td>Middle East and North Africa</td>
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<tr>
<td>MNH</td>
<td>Maternal and Neonatal Health</td>
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<td>MOH</td>
<td>Ministry of Health</td>
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<tr>
<td>NICE</td>
<td>National Institute for Health and Clinical Excellence</td>
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<tr>
<td>NVD</td>
<td>Normal Vaginal Delivery</td>
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<tr>
<td>OOP</td>
<td>Out-of-Pocket Expenditure</td>
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<tr>
<td>P4P</td>
<td>Pay for Performance</td>
</tr>
<tr>
<td>PHC</td>
<td>Primary Health Care</td>
</tr>
<tr>
<td>PTES</td>
<td>Program for Treatment at the Expense of the State</td>
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<tr>
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<td>Quality Adjusted Life Years</td>
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<td>QoL</td>
<td>Quality of Life</td>
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<td>RCTs</td>
<td>Randomised Controlled Trials</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for Social Science</td>
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<tr>
<td>STI</td>
<td>Sexually Transmitted Infections</td>
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<td>THE</td>
<td>Total Health Expenditures</td>
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<tr>
<td>UHC</td>
<td>Universal Health Coverage</td>
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<td>UNDG</td>
<td>United Nations Development Group</td>
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<td>UNFPA</td>
<td>United Nations Population Fund</td>
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<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<td>WHO</td>
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INTRODUCTION

Pregnancy is a normal, healthy state which most women aspire to at some point in their lives (WHO et al., 2004). When women give birth, they are at risk of maternal complications. Such complications can be both unpredictable and severe. In the absence of specialized care, the health of the mother and baby may rapidly deteriorate. The consequences of maternal complications, however, may not be limited to their immediate health impact. Women with obstetric complications may suffer consequences in terms of other problems, such as financial hardship, psychological distress, and longer-term health problems (Borghi et al., 2006).

Economic consequences of maternal complications may be felt through a number of ways. First, poor health is likely to be associated with increased out-of-pocket (OOP) expenditure on medical care, thereby depleting household resources that might otherwise have been spent on consumption of goods. Second, poor health may lead to a loss of labour and, as a result, reduce household income. Any expenditure due to maternal complications has an impact on the total expenditure usually made by household members since resources are typically pooled from within a household. Thus, expenditure due to health shocks specific to one family member can affect the welfare of other family members (Graham et al., 2006).

In developing countries governments often subsidize services at public health care facilities and provide them free of charge to users.
However, evidence suggests that users still incur large expenditures using the ‘free’ services for such things that are supposedly provided without charge. Studies have found that patients incurred substantial out of pocket expenditures for medicine, food and travel from the use of ‘free’ public health facilities (Levin A, et al., 2003).

In 2008/09, the vast majority of Egypt’s health spending (72 percent) came directly from household out-of-pocket (OOP) payments (Nakhimovsky et al., 2011). Out-of-pocket (OOP) payments for healthcare can cause households to incur catastrophic expenditures, pushing them into poverty (Bredenkamp and Gragnolati, 2011).

Globally, approximately 44 million households face catastrophic health expenditure annually, and about 25 million households are pushed into poverty by their health expenses (Shahrawat and Rao, 2012). In countries where risk pooling mechanisms are available people are protected from catastrophic spending (Xu K, et al., 2007) but many low- and middle-income countries experience high OOP payments and lack risk-sharing mechanisms, forcing households into hardship, asset depletion, debt, reduction of essential consumption, and sometimes financial catastrophe (Binnendijk E, et al., 2012). In developing countries public hospitals, rather than the preventive and primary healthcare sectors, are the major consumers of healthcare resources (Tabish SA, Mustaffa A, et al., 2005). Local health planners have inadequate knowledge of the costs of the healthcare services such as costs of running the in-patient hospital services they render (Olukoga A, 2007).
Hence, this study will be conducted to gain information that can be used to identify areas where costs could be reduced and where output could be increased. It may be used as a resource tool for financial management in hospitals and for suggesting measures (example health insurance and premiums) in making maternal healthcare more affordable.
AIM OF THE WORK

The aim of this work was to improve efficiency of services provided in Obstetric and Gynecology Hospital, Cairo University.

The study objectives were to:

1. Assess the amount and types of out of pocket expenditures by maternity in-patients at one of the Obstetric and Gynecology departments of Kasr Alainy teaching hospitals.

2. Identify factors influencing out of pocket expenditures and ability to pay among maternity in-patients at the Obstetric and Gynecology department of Kasr Alainy teaching hospitals.

3. Identify burden of out of pocket expenditures.

4. Determine possible coping strategies sought by households of maternity in-patients at the Obstetric and Gynecology department of Kasr Alainy teaching hospitals.
I- Out of Pocket Expenditures

Introduction:

In developing countries governments often subsidize services at public health care facilities and provide them free of charge to users. However, evidence suggests that users still incur large expenditures using the ‘free’ services for such things that are supposedly provided without charge. Studies have found that patients incurred substantial out of pocket expenditures for medicine, food and travel from the use of ‘free’ public health facilities (Levin et al., 2003).

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Economic consequences of maternal complications may be felt through the following:

First, poor health is likely to be associated with increased out-of-pocket expenditure on medical care, thereby depleting household resources that might otherwise have been spent on consumption of goods.

Second, poor health may lead to a loss of labour and, as a result, reduce household income. Any expenditure due to maternal complications has an impact on the total expenditure usually made by household members since resources are typically pooled from within a household. Thus, expenditure due to health shocks specific to one family member can affect the welfare of other family members (Graham et al., 2006).

Coping Mechanisms:

When measuring financial protection from such payments, coping mechanisms provide important information on how households respond to health shocks and how payment may affect their future welfare; simply looking at the ratio of health spending to household expenditure can overstate the threat to consumption and the catastrophic consequences of health payments (Flores et al., 2008).

Research from several studies suggests that households use different strategies to cope with health shocks (McIntyre et al., 2006). In the short run, when medical bills exceed a household’s income, households may use savings, sell assets, borrow money from friends and family, or take out a loan. Families may also alter their labour allocation decisions; if a household head falls ill, family members previously not working may begin to do so to substitute for lost income and repay loans (Banerjee and Duflo, 2007).
In some cases, some households are only able to manage payments by using coping strategies such as sale of assets, borrowing, and reduction in household consumption, which are all likely to have adverse effects on their wellbeing (Russell, 2004).

**Impact of Out of Pocket Expenditures:**

Out-of-pocket payment is considered the most inequitable financing mechanism (Wagstaff and van Doorsaler, 2000).

The economic consequences of illness in developing countries have been the focus of increasing attention in recent years (Gertler and Gruber, 2002).

 Millions of people around the world are prevented from seeking and obtaining needed care each year because they cannot afford to pay the charges needed for diagnosis and treatment and this can lead to financial hardship and even impoverishment because people are too ill to work (Onwujekwe, 2005).

OOP spending is an inefficient way of financing health care. It can have a negative impact on equity and can increase the risk of vulnerable groups slipping into poverty. Several studies have documented the consequences of a high share of OOP payments in total health financing in developing countries, with a higher poverty incidence and a larger proportion of households facing catastrophic expenditures (Russell, 2004 and O’Donnell et al., 2007).

Healthcare expenditures often present a considerable challenge to the economic sustainability of households, especially in resource-poor settings that lack effective health insurance policies (Leive and Xu, 2008).
In the case of OOP payments, accessing healthcare services is dependent on the economic status of the individual or household. Meeting demand for healthcare is a great challenge if the cost is unaffordable (WHO, 2010). Households may borrow money, sell assets or divert resources from other needs to seek healthcare, they may go for less costly traditional or sub-optimal care, or altogether forgo healthcare services they need (Goudge et al., 2009). Out-of-pocket (OOP) payments for healthcare can cause households to incur catastrophic expenditures, pushing them into poverty (Balarajan et al., 2011).

![Figure (A): Simplified flow-chart of key issues relating to the economic consequences of illness (Chima et al., 2003).](image)

**Determining Financial Catastrophe:**

There is no single accepted definition of catastrophic spending. Some studies assess payments in relation to the budget share (Russell, 2004); while others argue that catastrophic spending should be measured in relation to capacity to pay (i.e. household expenditure net of food spending).
(Xu et al., 2006). Nonetheless, all measures suggest that when households spend a large proportion of their budget on health care, they often forego other goods and services, which can have negative implications for living standards (O’Donnell et al., 2008a).

Any health expenditure that threatens a household’s ability to meet its subsistence needs is termed “catastrophic” (Su et al., 2006).

Catastrophic health care payments occur in both rich and poor countries, but over 90% of the people affected reside in low-income countries (Xu et al., 2003).

Catastrophic health spending is not caused simply by high-cost medical procedures or interventions. A relatively small payment can mean financial catastrophe to a poor person or household, forcing them to reduce other basic expenses such as food, shelter, or their children’s education. Similarly, large health care payments can lead to financial catastrophe and bankruptcy even for rich households (Himmelstein et al., 2005).

Catastrophic health expenditure can occur regardless of the amount of money paid to health care services. Rich households might pay large medical bills without experiencing negative implications, while low levels of spending among poor households can have severe financial implications for livelihoods (Chuma et al., 2007).

Emergency obstetric care, far more costly than normal delivery, can generate catastrophic expenses capable of pushing certain households below the poverty line or of plunging them deeper into poverty (Honda et al., 2011).
Several studies have explored the frequency of catastrophic health payments in Sub-Saharan Africa but few of them have focused on catastrophic expenditure resulting from emergency obstetric care and none has examined the factors that contribute to such expenditure. In addition, the ways in which households cope with these costs and their effects on their welfare have seldom been explored (Nguyen et al., 2011 and Honda et al., 2011).

The coping strategies used by households – e.g. using savings, selling assets or borrowing money – can provide important insights into how catastrophic expenditure can affect a household’s future welfare (Flores et al., 2008).

Xu et al. (2003), used the threshold that financial catastrophe occurs with health care payments at or exceeding 40 percent of a household’s capacity to pay in any year.

Previous cost of illness studies have shown that, for households in low and middle income countries, health expenditures are frequently above 10% of household income (McIntyre et al., 2006).

Various studies assess the impact of catastrophic spending on household poverty. These studies, mainly conducted in Asia and Latin America, showed that health care costs are major causes of impoverishment. In their study on health expenditures in 11 Asian countries, (Van Doorslaer et al., 2006) reported that poverty estimates were 14% higher when OOP payments are accounted for and that about 78 million people are pushed into poverty due to health care costs. Elsewhere, a survey of 89 countries found that catastrophic expenditure was reported
by 3%, 1.8% and 0.6% of households in low, middle and high income countries respectively (Xu et al., 2007).

In countries where risk pooling mechanisms (social health insurance and voluntary health insurance) are available, people are protected from catastrophic spending (Xu et al., 2007), but many low- and middle-income countries experience high OOP payments and lack risk-sharing mechanisms, forcing households into hardship, asset depletion, debt, reduction of essential consumption, and sometimes financial catastrophe (Binnendijk et al., 2012).

Globally, approximately 44 million households face catastrophic health expenditure annually, and about 25 million households are pushed into poverty by their health expenses (Shahrawat and Rao, 2012).

**Willingness Versus Ability to Pay:**

*Willingness* to pay might not be synonymous with *ability* to pay when such payment disrupts households’ usual consumption patterns or depletes their assets, putting them at risk of poverty (Van Doorslaer et al., 2006).

Payments for health care can also adversely affect households’ economies. Health economists have traditionally taken the view that any payments made for health services are affordable, because purchasers are best able to judge how to allocate their own resources. Others have found that such payments can cause economic hardship (Storeng et al., 2008).

**Measures of Economic Hardship:**

A frequently used measure of economic hardship associated with health payments is “catastrophic” medical spending that is defined as
spending over some threshold of household consumption (for example, say, 40 percent). One estimate suggests that 150 million households worldwide devote more than 40 percent of their nonfood spending to health care (Xu et al., 2003).

Because catastrophic spending thresholds lack an empirical basis, some analysts prefer to examine health spending that drives families below the poverty level (Wagstaff and Van Doorslaer, 2003). However, both measures generally omit indirect health care costs (for example, transportation, loss of work), which can be a substantial proportion of health spending (Xu et al., 2003).

More importantly, because many analysts do not consider the source of the funds, they fail to distinguish between families for whom such expenses were more or less affordable (Storeng et al., 2008).

An alternative approach is to assess sources of household financing for health care purchases. Households can pay for care from their current budgets or savings, or by borrowing money or selling assets. Although paying from the current budget is preferred if there is a sufficient cash surplus, medical bills are unpredictable and difficult to factor into regular household spending (Gertler and Gruber, 2002).

*Long-Term Implications of Borrowing:*

Although savings can reduce the economic shock of medical bills, savings rates are low in developing countries (Hamilton and Clemens, 1999). As a result, households often resort to borrowing money from family, friends, or moneylenders or to selling their assets (Flores et al., 2008).
In some cases, these coping strategies may represent a reasonable trade-off over time (that is, investing today for improved health and earning potential in the future). However, they can increase the economic vulnerability of families in the long term, particularly for large medical expenses (Storeng et al., 2008). For example, loans from moneylenders in developing countries often carry usurious interest rates (Banerjee and Duflo, 2007).

**Why an Analysis of Hardship Financing?**

Analyzing the extent of borrowing and selling to pay for health care, which we call “hardship financing,” can address some of the limitations of catastrophic spending measures. First, it can distinguish between high but ultimately affordable payments (such as those by a wealthy family buying cosmetic surgery out of discretionary income) and proportionally lower but less affordable spending (such as that by a poor family paying for treatment of a bone fracture through selling livestock). However, much of the available data to date on borrowing or selling to pay for health care have come from relatively small surveys, making inference difficult (McIntyre et al., 2006).

**Current Health Care Systems:**

Health systems in Africa and other low-income countries are predominantly funded through Out-of-pocket payments. Out-of-pocket payments do not offer any financial risk protection; many households incur high health expenditure, while others are impoverished due to health care costs (Xu et al., 2003).

Publicly financed health services have not been able to reach the poor in many developing countries, increasing the necessity of many
people to use out-of-pocket spending to purchase health services (Wagstaff, 2002). Out-of-pocket payment is the dominant mode of financing healthcare in developing countries (O’Donnell et al., 2008b).

User fees fall within the broader concept of “cost sharing”, a practice whereby beneficiaries contribute towards the cost of a public service and they are defined as payment of out-of-pocket charges at the time of use of services (Witter, 2005).

User fees for health care have been found to reduce use of essential health care services in low- and middle-income countries (Xu et al., 2007).

Despite the potential importance of user fees mostly paid as OOPs in developing countries in revenue generation, it has been shown to be the most regressive of all the financing mechanisms (Gilson and McIntyre, 2005) that will lead to the clamour for its removal because of the huge barrier that it poses to accessing health care (McIntyre et al., 2006). Studies have shown that the revenue generated through this means is too small to improve quality and that the structures are not in place to implement adequate exemption schemes to target the poorest households.

Local health planners have inadequate knowledge of the costs of the healthcare services such as costs of running the in-patient hospital services they render (Olukoga, 2007).

Protecting households from catastrophic health care costs is a desirable objective of health systems worldwide. The World Health Organization (WHO, 2005) call for universal health coverage emphasized the need to protect households from catastrophic medical expenses and impoverishment arising from seeking health care. The call also urged
health systems to ensure that health care costs do not prevent people from receiving needed health services.

Globally it is estimated that 150 million people suffer financial catastrophe each year due to health care payments and about 100 million are pushed into poverty because of out-of-pocket payments (Xu et al., 2007).

OOPs for health services has been shown to further impoverish the poor as well as exclude some of them from seeking health care (Xu et al., 2003).

One of the main objectives of national and international health policy is to replace Out-of-Pocket payments with more equitable modes of financing, in this context analysis of determinants of Out-of-Pocket payments is important for devising an effective health policy (WHO, 2000).

The fundamental role of a healthcare system is not only to improve population health but also to protect households from financial catastrophe associated with illness (WHO, 2000).

In designing healthcare financing systems, policy makers need to understand determinants not just of OOP payments, but also the related problem of catastrophic health expenditure associated with high OOP payments (Xu et al., 2003).

The World Health Organization estimated that households that spend 40% or more of their non-food expenditure on treatment are most likely to be impoverished (WHO, 2000).
Financial protection from the costs of illness is a major function of health care systems (Kruk and Freedman, 2008). This is most often accomplished by pooling risk through public or private insurance. Households’ direct out-of-pocket payments for health care, on the other hand, do not bring the benefits of pooling. This is of concern because out-of-pocket payments account for 70 percent of health financing in low-income countries, compared to 14.9 percent in high income countries—consistent with the low availability of prepayment (that is, tax-based social health insurance or voluntary insurance) in low-income countries (Schieber et al., 2007).

The main consequences of absence of financial protection mechanisms have been reduction in access to quality health care, not seeking treatment, long-term poverty and indiscriminate use of drugs prescribed by quacks (Whitehead et al., 2001).

Many current health care systems can be characterized by ineffectiveness and inefficiency (Parke, 2007). One reason for that can be found in the payment system of physicians; incentives that foster efficient delivery of high-quality care are often lacking (Rosenthal, 2008). Another reason is a lack of transparency about the quality and efficiency of care (Fung et al., 2008). A promising strategy to improve health care delivery is pay for-performance (P4P) (Emmert, 2008) that has become increasingly popular (Brien et al., 2009). In P4P, explicit financial incentives are provided to health care providers, based on their scores on predefined performance measures. P4P operates on the assumption that physicians’ behavior can be influenced by how they are paid. Indeed, health economics literature provides ample evidence that financial incentives can change the way in which physicians practice medicine (Town et al., 2004).
In addition, P4P assumes that increasing adherence to evidence-based guidelines and putting more emphasis on prevention, as well as carrying out early diagnosis, not only improves the quality of care, but may also prevents growth in health care costs (Wheeler et al., 2007). Next to financial incentives, P4P often also incorporates a nonfinancial incentive, namely public reporting, which is essentially a reputational incentive (Rhoads et al., 2009).

To date, however, evidence regarding the effectiveness of P4P is largely lacking (Landon et al., 2004) and of the studies available, results are insufficient to support P4P effectiveness (Nichols and O‘Malley, 2006). Although a positive impact of P4P on quality was demonstrated in some studies (Kouides et al., 1998), reported improvements are generally modest (Scott, 2007). In addition, other studies have come to heterogeneous and inconsistent conclusions (Kahn et al., 2010).

Moreover, unintended and undesired effects of P4P have been demonstrated (McDonald and Roland, 2009).

Although it seems that P4P has the potential to improve quality of care, it has not been convincingly confirmed through sound research (Schatz, 2008).

Although good quality care is an important goal of health care systems, resources are scarce, inevitably leading to trade-offs as well as priority setting. Therefore, it is important to address the efficiency of improvement efforts, including P4P (Kahn et al., 2010). While some authors assume P4P cost effectiveness (Greene and Nash, 2009), others do not share this point of view (Bailit Health Purchasing, 2008).

To date, there has been no systematic investigation on the efficiency of P4P. A preliminary search to identify ongoing relevant studies did not lead to results; research still seems to be focused on the effectiveness of P4P (Scott et al., 2010).
II- Economic Evaluation of Health Care

**Economics:**

Economics is concerned with the way scarce resources are allocated among alternative uses to satisfy unlimited human wants. It is considered as one of several social sciences that attempts to explain and predict human behavior on dealing with resources (Henderson, 2005).

**Economic Evaluation:**

Economic analysis is defined as the comparative analysis of alternative courses of action in terms of both their costs and consequences (Drummond et al., 1999).

Clinical decision making is a routine part of clinical practice. The decisions are based on knowledge of disease processes, the efficacy of drugs, and the utility of diagnostic tests. When patient preferences are incorporated, the result is a diagnostic and management plan that satisfies both the physician and the patient. Decisions reached in this manner may be unique to the patient/physician pairing (Kobelt et al., 2003).

Health decision making for groups of people, rather than individuals, involves similar processes. Economic analysis involves utilizing decision analysis techniques. The process models patient scenarios, putting in known information, such as costs, efficacy and safety parameters. The end result is usually a comparison of two options in a clinical decision. Economic modeling or clinical decision analysis attempts to summarize the benefits and harms (both clinical and financial) of the two options. Just as clinical decision making does, economic analysis combines
a medical evaluation of health care outcomes with costs and societal values (Homik, 2004).

**Principles of Health Economics:**

Health economics, in the broadest sense, deals with resource allocation in health, whether this refers to managing health services, financing health care, or dealing with supply and demand in the health care field.

Two of the important tenets of health economics are equity and scarcity.

**Equity:** describes the principle of an equitable distribution of health care or resources across the population.

**Scarcity:** reflects the idea that resources spent in one area are then unavailable for use in another.

There must be a balance between the benefit of resource allocation to a particular area and the benefits lost or harm that would occur in the other area not receiving the resources (Choi et al., 2000).

In an economic evaluation, the description of costs alone is generally not useful; it is important to view the cost of a given intervention as it relates to other outcomes (health outcomes). The most informative economic evaluations are comparative, viewing an intervention against other possible interventions available. While efficacy and effectiveness examine only the outcomes associated with two or more alternatives, and cost analysis compares the costs of different interventions alone, a full economic evaluation requires the comparison of two or more alternatives.
and the examination of both the costs and outcomes associated with each intervention (Jefferson et al., 2002).

There are several misconceptions about economic analyses that should be discounted. Cost-effectiveness is not equivalent to cost saving. The low cost of a given intervention does not make it economically attractive, and conversely, just because there is a high cost associated with a given intervention does not mean that it is necessarily economically unattractive. Lastly, preventative therapies do not always save money (Weisman et al., 2003).

**Features of Economic Analysis:**

MacDonald and Wei (2003) mentioned that it is important to remember that an economic analysis basically consists of the synthesis of outcomes and costs. There are three principal means of assessing the outcome of any given health intervention: efficacy, effectiveness and efficiency.

1- **Efficacy:**

   Efficacy is defined as the extent to which a specific intervention produces a beneficial effect under ideal conditions.

   Specifically speaking, efficacy is measured in randomized controlled trials (RCTs).

2- **Effectiveness:**

   Effectiveness is defined as the extent to which a specific intervention produces a beneficial effect in a defined population, when deployed in the field (e.g. in the community). Community-based controlled clinical trials
(CCTs), outcome studies, and quality of life (QoL) as an outcome all can be used to measure effectiveness.

3- **Efficiency:**

Efficiency is defined as the effects achieved in relation to the effort expended in terms of money, resources and time. Economic evaluations are the best means of assessing efficiency.

**Costs:**

*Spiegel et al. (2003)* reported that the other critical data in an economic analysis are cost data. There are three specific types of costs that may be estimated: direct costs (both medical and non-medical), indirect costs and economic costs.

1-Direct Costs:

a- **Direct medical costs:**

Direct medical costs arise from the costs of implementing an intervention (e.g. the costs of a drug), the costs of side effects and morbidity (e.g. the costs of an adverse event) and the induced costs (e.g. the costs of preventing or treating an adverse event) (*Spiegel et al, 2003*).

b- **Direct non-medical costs:**

Direct non-medical costs are defined as additional costs to the individual derived from the implementation of the intervention. For example, transportation, child care or home care would be considered to be direct non-medical costs (*Spiegel et al, 2003*).
2-Indirect costs:

Indirect costs are production losses—both loss of wages for the patient and loss in production for society (Kobelt et al., 2003).

3-Economic costs:

Economic costs are evaluated in terms of costs to the health care sector, costs to patients (out-of-pocket expenses) and costs to society. This is termed the perspective of the analysis. The perspective from which costs are being estimated should be stated clearly and justified. The costs to the health care sector, including intervention, health professionals and capital costs, are all direct medical costs. The costs to the patient involve direct medical costs (e.g. intervention), direct non-medical costs (e.g. transportation) and indirect costs (e.g. lost wages). The costs to society include all costs, direct and indirect. Estimation of costs is carried out by investigating various components of the overall costs. For things like drugs and physician visits, market prices can be estimated. Costs must also be estimated for non-market items (e.g. volunteer work) (Schwappach and Koeck, 2003).

Aim of Health Economic Evaluation:

Health economic evaluation aims at providing information on the efficiency of interventions. Efficiency results when benefits are maximized and opportunity costs (i.e., the value of benefits forgone by choosing one particular allocation of scarce resources over another) minimized (Donaldson et al., 2002).

Initially, economic evaluation was a method intended to help health care decision-makers make the best choices under conditions of uncertainty,
conflicting objectives and resource constraints (*Weinstein, 2006*). However, it rapidly proved inadequate for setting health care priorities. For example, in 1990, the state of Oregon tried using economic evaluation for health care priority setting to determine what services would be covered by Medicaid, the Health Services Commission used cost-utility ratios to rank services according to efficiency; in those results, life-saving interventions were ranked below less critical items such as headache treatment (*Tengs et al., 1996*). This experience clearly demonstrated the unacceptability of using efficiency as the only criterion to prioritize health care resource allocations (*Pinkerton et al., 2002*). Since then, several authors have analyzed the philosophical and theoretical foundations of the utilitarian approach to economic evaluation in relation to access to care, emphasizing the inadequacy of considering only this value in priority setting (*Williams and Cookson, 2006*).

Nevertheless, economic evaluation has become increasingly institutionalized with, among other things, the creation of the National Institute for Health and Clinical Excellence (NICE) in England and Wales and a growing number of Health Technology Assessment (HTA) agencies around the world. The trend toward evidence-based decision-making reinforced the need to base resource allocation decisions on rational criteria, with effectiveness and efficiency being especially important. In fact, it is widely recognized that inefficient resource allocations have important consequences in terms of opportunity costs, e.g. reduced access to care for other patients. Furthermore, it is now recognized that other criteria, such as equity of access to care (*Caro, 2009*) should be considered at the same time as efficiency of interventions. Since the 1980s, there have been major developments in the field of economic evaluation, especially in
terms of methodologies, which have become increasingly sophisticated. At the same time, the literature has identified important barriers to the use of economic evaluation in decision-making; the difficulty of deciphering economic evaluation research being one of them. The way the field has expanded has thus created a paradox: whereas economic evaluation is considered an insightful tool for achieving health care efficiency, its methodological developments have decreased decision-makers’ capacity to use it (NICE, 2008).

**Types of Health Care Economic Analyses:**

There are essentially four forms of health care economic analyses associated with health care interventions. They include cost-minimization analysis, cost-benefit analysis, cost effectiveness analysis, and cost-utility analysis (Table 1) (Brown et al., 2003).

Table (A) : Types of Health Care Economic Analysis.

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Measures</th>
<th>Drawbacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost-minimization</td>
<td>Which of equivalent interventions is less costly</td>
<td>Rarely used; few interventions are exactly equivalent</td>
</tr>
<tr>
<td>Cost-benefit</td>
<td>Dollars expended on an intervention for the dollars gained as a result of the intervention</td>
<td>Ignores quality of life</td>
</tr>
<tr>
<td>Cost-effectiveness</td>
<td>Dollars expended for a specific outcome gained (life-years, vision-years, excluding QALYs)</td>
<td>Ignores quality of life</td>
</tr>
<tr>
<td>Cost-utility</td>
<td>QALYs or dollars expended for the patient perceived value (improvement in quality of life or length) gained from an intervention</td>
<td>Most complex; utility values may not be available</td>
</tr>
</tbody>
</table>

*QALY, quality-adjusted life-year. (Smith and Brown (2000)).*
Cost-Minimization Analysis:

Outcome: Which Intervention is Less Costly?—Cost minimization analysis compares two or more interventions of equal value with the patient and assesses which is less costly. It is the least frequently performed method of health care economic analysis, (Briggs and O’Brien, 2001) most likely because two interventions are rarely exactly comparable. For example, whereas laparoscopic and conventional cholecystectomy may have similar long-term results, the disutilities of increased pain and longer recovery associated with the conventional variant prevent the two from being directly comparable (Brown et al., 2003).

Providers can use this type of analysis to guide medical decision making when the clinical effectiveness of treatment options is equivalent. Under these circumstances a better description might be cost minimization analysis—a study to determine the low cost treatment option to bring about a defined health outcome e.g the low cost option to treat acute otitis media (Henderson, 2005).

Even though the results of cost of illness studies are interesting, they do not answer questions related to the most effective options for treating the disorders. To answer questions concerning optimal resource allocation we must try a different approach to economic evaluation either cost-benefit analysis or cost-effectiveness analysis (Henderson, 2005).

Cost-Benefit Analysis:

Outcome: Dollars Expended Versus Dollars Saved.

Cost-benefit outcome compares the resources (dollars) expended on an intervention with the resources (dollars) saved as a result of the
intervention. Quality of life outcomes are essentially ignored in this type of analysis. Nonetheless, cost-benefit analyses are readily understood by policy makers, an important aspect for transforming research into actual practice (Brown et al., 2003).

Good examples of cost-benefit analysis are studies by (Javitt et al., 1990) addressing the cost-benefit of the screening and treatment of patients with type 1 diabetes.

Membreno et al. (2002), have shown in a cost-benefit analysis that the expenditure for the screening and treatment of amblyopia returns $2.20 to the GDP for every dollar spent.

**Cost-Effectiveness Analysis:**

*Outcome: Specific Outcome Gained for the Resources Expended.*—Cost-effectiveness analysis measures a given outcome gained from an intervention for the resources (dollars) expended. The outcome can be in the form of life-years (years of life), vision-years (years of good vision), or some other form (Brown et al., 2003).

It is used when the outcomes of the different procedures or programs considered are expected to vary, but these outcomes can be expressed in common units e.g there is a range of treatments available for the control of hypertension. These vary in terms of their outcomes, side effects, and so on, but they can be measured primarily in terms of the reduction in diastolic blood pressure that they achieve (Folland et al., 2001).

**Cost-Utility Analysis:**

*Outcome: Resources Expended for the Number of Quality-Adjusted Life-Years Gained.* In 1977 Weinstein and Stason wrote a landmark paper
introducing cost-utility analysis as known today (Gold et al., 1996). During the past quarter century, it has become increasingly popular and accepted as a valid form of health care analysis (Drummond et al., 1999).

Cost-utility analysis is the most sophisticated form of health care economic analysis because it measures the resources (dollars) expended for the total value gained from an intervention. There is confusion in the literature in that some authors have used the term cost-effectiveness analysis to connote cost-utility analysis. Cost-utility analysis is unique in that it takes into account the value (improvement in length of life or quality of life) conferred by a health care intervention. The improvement in length of life is generally obtained from evidence-based data, but the improvement in quality is more difficult to ascertain. Cost-utility analysis is the foundation for value-based medicine, or medicine based on the delivery of the highest patient-perceived value from an intervention for the resources (dollars) expended (Drummond et al., 1999).

Measuring utility is done through various quality of life scales that have been developed e.g the effectiveness of treatment that improves both the duration and the quality of survival might be expressed in quality-adjusted life-years (QALYs). Measurement of QALYs weighs years of life by quality of these years, which is determined by the presence of intangible outcomes such as pain and disability. For example a year of life with hemiparesis might be equivalent to 0.5 year of life in perfect health thus equivalent to 0.5 QALYs (Garber, 2001).

Because of the limitations of cost-effectiveness analysis, efforts have been devoted to the development of “utility” based measures of outcome. In the health context this term is used to refer to the subjective level of well being that people experience in different states of health (Henderson, 2005).
III- Maternal Health Services

Definition:

Maternal and Reproductive Health Services in health systems constitutes a large range of curative and preventative health services of particular importance to the health of women of reproductive age. It also refers to population-based services such as behavior change and health communication (e.g. promotion of antenatal care) (Patmanathan et al., 2003).

Status of Maternal and Reproductive Health Services:

Improving maternal and reproductive health in developing countries is a significant global development challenge. The means with which services are delivered in a health system play a key role in the reduction of maternal deaths. One of the Millennium Development Goals is to reduce the maternal mortality ratio between 1990 and 2015 by three quarters, Statistics show that approximately 600,000 women die worldwide every year from complications of pregnancy and childbirth. That is more than one woman dying every minute. For every woman that dies, approximately 20 women experience a debilitating injury, often with life-long consequences. Poorer women are disproportionately affected by maternal mortality and morbidity because they have significantly less access to health services compared to wealthier women (Chapman, 2003).

Issues in Maternal and Reproductive Health Services:

Koblinsky (2003) mentioned that several systemic factors undermine the delivery of maternal and reproductive health services in
developing countries. Problems include, but are not limited to, poor referral systems and inadequate health service skills.

**Antenatal Care Coverage:**

Early and regular checkups by trained medical providers are very important in monitoring women’s health status during pregnancy. A birth is considered to have received regular care if the mother said that she had made at least four antenatal care (MNH, 2001a).

Egyptian women received antenatal care from a medical provider for 74 percent of the births that took place during the five-year period before the EDHS survey. Most Egyptian mothers who received antenatal care began seeing a provider within the first six months of pregnancy. Mothers saw a provider for care for the first time before the sixth month of pregnancy for 96 percent of births for which antenatal care was reported (i.e., for 71 percent of all births). To detect problems that might affect the delivery, women should also see a provider during the last stages of pregnancy, among women who received antenatal care, the majority (i.e., for 70 percent of all births) saw a provider in the eighth month of pregnancy or later (Arimond and Ruel, 2004).

**Tetanus Toxoid Vaccinations:**

Tetanus toxoid injections are given to women during pregnancy to prevent deaths from neonatal tetanus. An infant is considered to be fully protected if any of the following criteria are met: (1) the mother had two tetanus toxoid injections during the pregnancy; (2) the mother had a tetanus toxoid injection during the pregnancy plus an additional injection in the 10 years prior to the pregnancy; or (3) the mother did not have a tetanus toxoid injection during pregnancy but had at least five injections prior to the
pregnancy. According to the EDHS results slightly more than three-quarters of last-born children during the five-year period before the survey were fully protected against neonatal tetanus (El-Zanaty and Associates, 2007).

**Content of Pregnancy Care:**

For more than eight in ten last births for which mothers saw a medical provider during pregnancy, the women reported that they had been weighed or their blood pressure had been monitored during the visit to the provider. Mothers reported that urine and blood samples were taken in the case of around seven in ten births and 44 percent received or bought iron tablets or syrup. Mothers were advised about the complications that they might experience in 34 percent of the births and were told to seek assistance if they had problems in 31 percent of the births. (Rutstein and Johnson, 2004).

**Place of Delivery:**

Slightly more than seven in ten births in the five-year period before the survey occurred in a health facility. The majority of women delivering in a facility (55 percent) spent less than 24 hours in the facility after giving birth, and 40 percent reported they spent less than 6 hours at the facility after the birth. Births to women who had antenatal care were much more likely to take place in a health facility than other births. Moreover, among births in which the mother had received antenatal care, deliveries were less likely to occur in a health facility if the mother had three or fewer antenatal visits prior to the birth than if she had had more regular care (62 percent and 82 percent, respectively) (El-Zanaty and Way, 2006). The likelihood of the delivery outside a facility was greatest for births of order six or
higher, rural births, especially births in rural Upper Egypt, and births to women with no education. Women in the lowest wealth quintile were most likely to have had a home delivery; fewer than half of the births to women in the quintile took place in a health facility. Regarding the type of health facility, the majority of facility deliveries (45 percent of all births occurred in private health facilities. Births to mothers in the highest wealth quintile were most likely to have been delivered in a private facility (70 percent). Women who did not deliver the last birth in a health facility were asked about the reason(s) for not going to a facility for the delivery. The majority (63 percent) reported that they had not considered it ‘necessary’ to deliver in a facility. An additional 11 percent gave as a reason that facility deliveries were not the custom, 23 percent cited the cost of a facility delivery, and 7 percent mentioned poor quality of services at facilities (El-Zanaty and Associates, 2007).

**Assistance at Delivery:**

Doctors (74 percent) or trained nurses or midwives (5 percent) assisted at delivery of the majority of births in the five-year period before the survey. Most of the remaining births were assisted by dayas (traditional birth attendants). Twenty-six percent of births which took place outside of a health facility were assisted by trained medical personnel. Antenatal care, particularly regular antenatal care, is strongly associated with the likelihood that births will be medically assisted. Considering other characteristics, medically-assisted deliveries were most common for urban births, births to highly educated mothers (El-Zanaty and Associates, 2007).
Caesarean Deliveries:

More than one-quarter of deliveries in the five-year period before the 2008 EDHS survey were by caesarean section. Women delivering in a private health facility were slightly more likely than women delivering in a government facility to have a Caesarean delivery. Thirty-seven percent of urban births were Caesarean deliveries compared to 22 percent of rural births. The likelihood of a Caesarean delivery increased with the mother’s educational status and was greater among women working for cash than among other women. The rate of Caesarean deliveries peaked at 45 percent among women in the highest wealth quintile compared to 14 percent among women in the lowest quintile (CAPMAS, 2008).

Postnatal Care:

Care after delivery is very important for both the mother and her child. Proper care after delivery is especially important for births occurring in the home. The Ministry of Health recommends several visits for postnatal care. The first visit should occur within two days of delivery, and the last at 40 days. In addition there should be at least two other visits, one at seven days after delivery and another at 15 days (WHO, 2008).

Postnatal Check-up for The Mother:

Overall, women reported they had a postnatal checkup in the case of 66 percent of all births during the five-year period before the survey. Postpartum care is largely confined to births assisted by a medical provider. Among last births during the five-year period prior to the survey, postnatal checkups took place more often in private facilities than in facilities operated by the government. With regard to the timing of postnatal checkups, mothers saw a provider for the checkup within two days of the
delivery for almost all last births for which any postnatal care was reported. Postnatal care was more common for urban than rural mothers. The percentages of mothers who had postnatal care increased with both education level and the wealth quintile (WHO, 2008).

**Postnatal Check-up for The Baby:**

The MOH has established a program to promote the collection of blood samples in the two-week period following a child’s birth to screen for genetic problems. Overall, women reported that their infant had had postnatal checkup in the case of 30 percent of all births during the five-year period before the survey. Mothers reported that a blood sample was taken from the child’s heel within two weeks of delivery in the case of 89 percent of last-born children during the five-year period before the survey. Almost all infants who had a postnatal checkup were seen by a doctor. Infants were more than twice as likely to have been taken to a private provider for the postnatal checkup as to a public health facility (22 percent and 8 percent, respectively) (Geerlings et al., 2007).

Since many of the children who die in infancy die in the early neonatal period, it is important for the postnatal checkup to take place soon after delivery in order to screen for conditions that may threaten an infant’s survival. About one-fifth of newborns are seen for the first checkup within a week following delivery but that only 8 percent of all last births were seen for the first checkup within two days of their postnatal checkups were somewhat more prevalent among urban infants than rural infants. The largest differential observed was for the child’s birth order, with 79 percent of sixth-order birth or higher having a heel sample taken compared to 92 percent of first order births (WHO, 2002).
**Family Planning and Breastfeeding Advice:**

30 percent of mothers said that they were given advice about family planning and 23 percent about breastfeeding. With regard to the source of the advice, health providers were the most frequently mentioned source for both family planning and breastfeeding advice (Setty, 2006).

**Sexually Transmitted Infections:**

In the 2008 EDHS, several questions were asked during the ever-married women’s interviews to assess awareness and recent experience with sexually transmitted infections (STI). First women were asked if they had heard about any infections that could be transmitted by sexual contact. They were also asked if they had had an STI in the past 12 months. Women who had had an infection or experienced symptoms were asked additional questions relating to any treatment that they may have sought for the infection or symptoms. However, the results provide some insight into the extent to which women are aware of and are seeking medical assistance for abnormal reproductive tract symptoms. (CDC, 2002)

Knowledge of other STIs varied considerably by background characteristic. For example, urban women were more likely than rural women to know about STIs (69 percent and 52 percent, respectively) and women in the highest wealth quintile were more than twice as likely as those in the lowest quintile to be aware of STIs. The proportion of women reporting recent experience with STIs or STI symptoms decreased with age and was higher in Upper Egypt than in other areas. Sixty-four percent of women experiencing an STI or STI symptoms sought medical treatment. Women who sought treatment were more than twice as likely to consult a private medical provider as a public health facility. Women from urban Upper Egypt were most likely to have sought treatment and women age 45-
49 years the least likely (73 percent and 51 percent, respectively) (WHO, 2008).

**Women’s Access to Health Care:**

To obtain this information, EDHS respondents were asked whether each of the following factors would be a big problem for them in obtaining medical advice or treatment if they were sick: getting permission to go, getting money for treatment, the distance to the health facility, having to take transportation, concern about going alone to the facility, lack of a female health care provider, lack of any health care provider, and concern about the availability of drugs. Women most frequently cited the lack of a health care provider (63 percent) and lack of drugs (64 percent) as potentially big problems followed by difficulties in getting the money to pay for treatment (44 percent), concern that no female health care provider would be available (40 percent), and not wanting to go alone (26 percent). Twenty percent or less of women mentioned as potential barriers the need to arrange for transport, the distance to the provider, or the need to get permission from the husband or someone else before they could go for care. Urban women were somewhat less likely than rural women to report at least one potential obstacle (UNDG, 2003).
METHODOLOGY

I. Study Site:

This study was conducted in different departments in Obstetrics and Gynecology Hospital, of Faculty of Medicine, Cairo University.

II. Study Design:

The study employed a cross sectional design where maternity patients from the Obstetrics and Gynecology Hospital were asked to participate in the study to explore out of pocket expenditures, and influencing factors.

III. Study Subjects:

All females aged 15-49 years admitted to the Obstetrics and Gynecology Hospital, of Faculty of Medicine, Cairo University, and fulfilling the inclusion criteria for the study were approached to be included in the study. The Inclusion criteria were as follows:

Inclusion Criteria:

Women admitted to the Obstetrics and Gynecology Department for the following:

- Normal Vaginal Delivery (NVD)
- Caesarean Section (C-section)
- Other conditions associated with pregnancy; Abortion and Pre-eclampsia,

NVDs and C-section included cases with complications.

Exclusion criteria: The following conditions were excluded:-

- Comatose patients
- Patients who work at the same hospital
IV. **Sample size and Technique:**

A quota sample of 300 females was identified at the beginning of the study. This number is based on the following:

- The time allocated for the interview.
- The duration of the study.
- Ability of the researcher to recruit patients on the identified working days for the thesis.

Patients were recruited on two working days per week, with an average of 4 - 5 patients per day for a total duration of 8 months.

V - **Study Tools:** The final study questionnaire was developed from the following:

1. A validated socio-economic status scale suggested by *El-Gilany, et al., 2012* was used. The score includes domains of education, occupation, family and family possessions as well as economic, and health domains.

2. A developed structured questionnaire, by the researcher, addressing fertility characteristics of the study participants e.g. age as well as information on underlying medical conditions, and length of hospital stay.

3. Semi-structured open-ended questionnaire for out of pocket expenditures.

The study questionnaire was constructed after detailed review of literature.
The study questionnaire included questions regarding the following:

A- Measuring family socioeconomic status [Annex 1]: This scale includes 7 domains to assess the following:

- Education and cultural domain (for both husband and wife)
- Occupation domain (for both husband and wife)
- Family possessions domain
- Family domain
- Home sanitation domain
- Economic domain
- Health care domain

B- Developed structured questionnaire addressing fertility characteristics of the study participants e.g. age as well as information on underlying medical conditions, and length of hospital stay [Annex 2].

C- Semi-structured open-ended questionnaire to determine out of pocket expenditures for medicine, food, admission fees, travel, investigations and tips [Annex 3].

VI. Phases of the Study:

- **Phase 1: Preparatory Period**: lasted from July 2013 to November 2013.

This phase included the following activities:

1. Reviewing articles and literature about maternity patients out of pocket expenditures

2. Preparing the study tools by designing and reviewing different questionnaires, topic guides and consulting supervisors.
3. Visiting the statistics and medical records department to retrieve the "numbers of attendants" of all females in the hospital (in the previous year of the study - 2013) [Annex 4].

❖ **Phase 2: Implementation (Field Work):** from January 2014 - August 2014.

1. Data collection was done over a period of 8 months. An average of 4-5 patients /day were enrolled on two working days per week (from 9.00am to 1.00 pm) excluding official holidays.
2. Filling the questionnaires consumed 25 to 45 minutes.
3. A pilot study was conducted for fifteen cases. The aim was to:
   - Have a look at the actual site scene of the departments, observe work flow and identify any field problems.
   - Test the questionnaire form for clarity, reliability and acceptance.
   - Measure the time needed for each questionnaire to be completed.

**Feedback from The Pilot Study:**

- Some amendments were done in the questionnaire e.g. omission, addition, modification and correction of the sequence of questions.
- The questionnaire form needed about 25-40 minutes to be completed.

Pilot questionnaires were not included in the final analysis.

❖ **Phase 3: Data Management and Interpretation of the Results:**
from December 2014- April 2015.

- All collected questionnaires were revised for completeness and logical consistency.
Methodology

- Data were coded and entered on the computer using "Microsoft Office Excel Software "version 2007.
- Data were then transferred and analyzed using Statistical Package for Social Science version 16 " SPSS v.16".
- The data were summarized using mean and standard deviation for quantitative variables and percentage for qualitative variables.
- Close ended questions were presented in frequency distribution tables, while open ended questionnaires were analyzed qualitatively.
- Graphs were used to illustrate and clarify some results.
- Appropriate statistical tests of significance were used to test the null hypothesis in comparison between groups. The Mann-Whitney test used to compare data difference between groups was considered significant at P-value at the <0.05 level.


Table (B): Gantt Chart showing timelines of activities.

<table>
<thead>
<tr>
<th>Activities</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Phase 1 (Preparatory phase)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 2 (Implementation phase)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 3 (Data management)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 4 (Finalizing thesis)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1--->

**VII. Ethical Considerations:**

The study protocol was discussed by staff members of the Public Health Department, Faculty of Medicine, Cairo University, and approved by its council held in 9/5/2013. Selected members of this department
Methodology

constituted the internal review board to guarantee the ethical conformity of the study and an approval from Research Ethics Committee was obtained.

Verbal consents were obtained from all participants before recruitment in the study, after explaining the objectives of the work. Confidentiality was guaranteed on handling the database and questionnaire forms that were anonymous in accordance with the revised Helsinki declarations of biomedical ethics (*World Medical Association 2008*).

**VIII. Limitations of the study:**

1- Some participants could not estimate exactly the amount of expenses as the persons responsible for payment were their relatives.

2- Some participants were embarrassed to talk about income and tips.
RESULTS

This cross-sectional study included 300 females admitted to different departments in the Obstetrics and Gynecology Hospital of Kasr Al- Aini Teaching Hospitals, of the Faculty of Medicine, Cairo University.

The total out of pocket expenditures, were estimated according to the services provided by the Obstetrics and Gynecology Hospital (medicine, investigations).

The study results can be summarized in the following sections:

I. Socio-demographic characteristics of study participants
II. Reproductive health features of females included in the study.
III. Health seeking behaviors and information among females in the study
IV. Out of pocket expenditures reported by study participants.

I. Socio-demographic characteristics of study participants

Table (1): Mean age of females included in the study.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>St. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (in years)</td>
<td>29.4</td>
<td>5.9</td>
<td>17</td>
<td>44</td>
<td>29.0</td>
</tr>
</tbody>
</table>

Table 1 shows that the mean age of study participants was $29.4 \pm 5.9$ years with a minimum of 17 years and a maximum of 44 years. The age range for study participants was 27 years.
Table (2): Socio-demographic characteristics of females included in the study.

<table>
<thead>
<tr>
<th>Socio-demographic variables of study females</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (in years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 30</td>
<td>156</td>
<td>52.0</td>
</tr>
<tr>
<td>30 and above</td>
<td>144</td>
<td>48.0</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>62</td>
<td>20.7</td>
</tr>
<tr>
<td>Read and Write</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td>Primary</td>
<td>24</td>
<td>8.0</td>
</tr>
<tr>
<td>Preparatory</td>
<td>48</td>
<td>16.0</td>
</tr>
<tr>
<td>Secondary</td>
<td>124</td>
<td>41.3</td>
</tr>
<tr>
<td>Intermediate Institute</td>
<td>27</td>
<td>9.0</td>
</tr>
<tr>
<td>University</td>
<td>9</td>
<td>3.0</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-working /house wife</td>
<td>255</td>
<td>85.0</td>
</tr>
<tr>
<td>Unskilled manual worker</td>
<td>9</td>
<td>3.0</td>
</tr>
<tr>
<td>Skilled manual worker/farmer</td>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td>Semi-professional/clerk</td>
<td>31</td>
<td>10.3</td>
</tr>
<tr>
<td>Professional</td>
<td>2</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Table 2 demonstrates the distribution of cases by educational level where cases with secondary level of education represented 41.3% followed by those with no education (20.7) then preparatory level of education
Results

(16%) then intermediate level (9%). The least were cases that read and write.

Housewives constituted 85% of all subjects included in the study. Those who had semi-professional jobs (clerk) represented 10.3%, while 3% were unskilled manual worker, 1% farmers and 0.7% professionals (e.g. teacher).

Figure (1): Distribution of cases by education.

Figure (1) demonstrates the distribution of cases by educational level where cases with secondary level of education represented 41.3% followed by those with no education (20.7) then preparatory level of education (16%) then intermediate level (9%). The least were cases that read and write.
Table (3): Socio-demographic characteristics of participants’ husbands.

<table>
<thead>
<tr>
<th>Socio-demographic variables of females’ husband</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Husband Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>42</td>
<td>14.0</td>
</tr>
<tr>
<td>Read and Write</td>
<td>4</td>
<td>1.3</td>
</tr>
<tr>
<td>Primary Education</td>
<td>26</td>
<td>8.7</td>
</tr>
<tr>
<td>Preparatory Education</td>
<td>38</td>
<td>12.7</td>
</tr>
<tr>
<td>Secondary Education</td>
<td>129</td>
<td>43.0</td>
</tr>
<tr>
<td>Intermediate Institute</td>
<td>41</td>
<td>13.7</td>
</tr>
<tr>
<td>University Education</td>
<td>20</td>
<td>6.7</td>
</tr>
<tr>
<td><strong>Husband Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non- working</td>
<td>15</td>
<td>5.0</td>
</tr>
<tr>
<td>Unskilled manual worker</td>
<td>65</td>
<td>21.7</td>
</tr>
<tr>
<td>Skilled manual worker/farmer</td>
<td>87</td>
<td>29.0</td>
</tr>
<tr>
<td>Trades/business</td>
<td>13</td>
<td>4.3</td>
</tr>
<tr>
<td>Semi-professional/clerk</td>
<td>109</td>
<td>36.3</td>
</tr>
<tr>
<td>Professional</td>
<td>11</td>
<td>3.7</td>
</tr>
</tbody>
</table>

Table 3 shows that female participants’ husband’s education with secondary level of education were the highest (43%) followed by illiterate (14%) then intermediate institute (13.7%), and preparatory (12.7%) followed by primary (8.7%) then university education (6.7%). The least were cases that read and write (1.3%). As regards husbands’ occupation, those with semiprofessional jobs constituted the highest percentage (36.3%) and professional occupation was the least percentage (3.7%).
Table (4): Residence and housing characteristics of study participants.

<table>
<thead>
<tr>
<th>Housing characteristics</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>62</td>
<td>20.7</td>
</tr>
<tr>
<td>Urban</td>
<td>238</td>
<td>79.3</td>
</tr>
<tr>
<td>Housing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rented (less than 4 rooms)</td>
<td>158</td>
<td>52.7</td>
</tr>
<tr>
<td>Rented (4 or more rooms)</td>
<td>2</td>
<td>0.7</td>
</tr>
<tr>
<td>Owned (less than 4 rooms)</td>
<td>137</td>
<td>45.7</td>
</tr>
<tr>
<td>Owned (4 or more rooms)</td>
<td>3</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Table 4 shows that cases living in urban areas represented (79.3%) while those from rural areas represented 20.7% of all participants. Cases reporting living in house type that is rented with less than 4 rooms were the highest (52.7%), followed by those reporting living in owned house less than 4 rooms (45.7%). Those living in owned houses with 4 or more rooms only represented (1%) of all participants and those living in rented houses with 4 or more rooms were the least represented among study participants.
Table (5): Services available in study participants’ residence.

<table>
<thead>
<tr>
<th>Housing services available</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pure water supply</td>
<td>278</td>
<td>92.7</td>
</tr>
<tr>
<td>Electricity</td>
<td>293</td>
<td>97.7</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>118</td>
<td>39.3</td>
</tr>
<tr>
<td>Sewerage system</td>
<td>214</td>
<td>71.3</td>
</tr>
<tr>
<td>Municipal collection of solid waste</td>
<td>170</td>
<td>56.9</td>
</tr>
<tr>
<td>Flush latrine</td>
<td>207</td>
<td>69.0</td>
</tr>
<tr>
<td>Air conditioning</td>
<td>12</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Table 5 displays that the majority of study participants have access to pure water supply, and electricity (92.7%, and 97.7% respectively) while those who have natural gas in their homes represent only 39.3%. Participants reporting the availability of sewerage system, municipal collection of solid waste, flush latrine and air conditioning constitute 71.3%, 56.7%, 69% and 4% respectively.
Table (6): Percent distribution of participants according to number of family members.

<table>
<thead>
<tr>
<th>No. of family members</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5</td>
<td>209</td>
<td>69.7</td>
</tr>
<tr>
<td>5 or more than 5</td>
<td>91</td>
<td>30.3</td>
</tr>
</tbody>
</table>

Table 6 illustrates the number of family members per family. Families with 5 or more members constitute 30.3% while those with less than 5 members constitute 69.7%.

Table (7): Distribution of cases included in the study according to crowding index.

<table>
<thead>
<tr>
<th>Crowdness Index (No. persons/room)</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than or equal 1 person per room</td>
<td>78</td>
<td>26.0</td>
</tr>
<tr>
<td>more than 1 person per room</td>
<td>222</td>
<td>74.0</td>
</tr>
</tbody>
</table>

Table 7 shows that the crowding index with more than one person per room was found in 74% of families while crowding index with less than or equal one person per room constitutes 26% of families of females included in the study.
Table (8): Family possessions of females included in the study.

<table>
<thead>
<tr>
<th>Family possession</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio</td>
<td>226</td>
<td>75.3</td>
</tr>
<tr>
<td>TV</td>
<td>292</td>
<td>97.3</td>
</tr>
<tr>
<td>Washing machine</td>
<td>290</td>
<td>96.7</td>
</tr>
<tr>
<td>Car</td>
<td>9</td>
<td>3.0</td>
</tr>
<tr>
<td>Telephone/mobile</td>
<td>283</td>
<td>94.3</td>
</tr>
<tr>
<td>agricultural land</td>
<td>15</td>
<td>5.0</td>
</tr>
<tr>
<td>Non-agricultural land for housing</td>
<td>8</td>
<td>2.7</td>
</tr>
<tr>
<td>Shop/animal shed</td>
<td>13</td>
<td>4.3</td>
</tr>
<tr>
<td>other house</td>
<td>17</td>
<td>5.7</td>
</tr>
<tr>
<td>Animals/poultry</td>
<td>72</td>
<td>24.0</td>
</tr>
<tr>
<td>Computer / internet</td>
<td>64</td>
<td>21.3</td>
</tr>
</tbody>
</table>

*Multiple answers were allowed.

This table shows that families having radio, television, washing machine, car, telephone, agricultural land, non-agricultural land, shop, other house, animals and computer constitute 75%, 97%, 96%, 3%, 94%, 5%, 2%, 4%, 5%, 24% and 21% respectively.

II. Reproductive health features of females included in the study

Table (9): Percent distribution of females included in the study, by cause of admission.

<table>
<thead>
<tr>
<th>Cause of admission</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Delivery</td>
<td>95</td>
<td>31.6</td>
</tr>
<tr>
<td>Cesarean Delivery</td>
<td>87</td>
<td>29.0</td>
</tr>
<tr>
<td>Abortion</td>
<td>50</td>
<td>16.7</td>
</tr>
<tr>
<td>Preeclampsia</td>
<td>68</td>
<td>22.7</td>
</tr>
</tbody>
</table>
Figure (2): Distribution of cases by cause of admission.

Table (9) and figure (2) show that the majority of females included in the study were either admitted for normal (31.6%) or cesarean (29%) deliveries followed by preeclampsia (22.7%) then abortion (16.7%).

Table (10): Percent distribution of co-morbidities and complications among females included in the study.

<table>
<thead>
<tr>
<th>Co-morbidity</th>
<th>Frequency (N=175)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>11</td>
<td>3.7</td>
</tr>
<tr>
<td>Anemia</td>
<td>83</td>
<td>27.7</td>
</tr>
<tr>
<td>Renal problem</td>
<td>8</td>
<td>2.7</td>
</tr>
<tr>
<td>Cardiac problem</td>
<td>12</td>
<td>4.0</td>
</tr>
<tr>
<td>Hepatic problem</td>
<td>12</td>
<td>4.0</td>
</tr>
<tr>
<td>Postpartum hemorrhage</td>
<td>38</td>
<td>12.7</td>
</tr>
<tr>
<td>Puerperal sepsis</td>
<td>11</td>
<td>3.7</td>
</tr>
</tbody>
</table>
Results

Table 10 shows the distribution of participants with co-morbidities. Only 175 females had medical co-morbidities or postpartum complications. Females who were diabetic represented only 3.7%, while those diagnosed with anemia were slightly over a quarter (27.7%). Females with associated renal, cardiac, and hepatic problems represented 2.7%, 4%, 4% respectively. Females who suffered postpartum hemorrhage and puerperal sepsis constituted 12.7% and 3.7% respectively.

Table (11): Percent distribution of history of antenatal care among study participants.

<table>
<thead>
<tr>
<th>Antenatal care</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No follow up</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>obstetrics and gynecology clinic</td>
<td>134</td>
<td>44.7</td>
</tr>
<tr>
<td>primary health care</td>
<td>48</td>
<td>16.0</td>
</tr>
<tr>
<td>private clinic</td>
<td>118</td>
<td>39.3</td>
</tr>
</tbody>
</table>

Figure (3): Distribution of sources for antenatal care among study participants.
Table (11) and figure (3) show that cases receiving antenatal care from Obstetric and Gynecology clinic constitute the highest percentage (44.7%) followed by private clinic (39.3%) then primary health care (16%).

### III. Health seeking behaviors and information among females in the study

#### Table (12): Percent distribution of participants’ health care seeking behavior.

<table>
<thead>
<tr>
<th>Usual source of health care</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional healer/self-care</td>
<td>5</td>
<td>1.7</td>
</tr>
<tr>
<td>Free governmental health service</td>
<td>175</td>
<td>58.3</td>
</tr>
<tr>
<td>Health insurance</td>
<td>8</td>
<td>2.7</td>
</tr>
<tr>
<td>Private health facilities</td>
<td>103</td>
<td>34.3</td>
</tr>
<tr>
<td>More than one of the above sources</td>
<td>9</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Table 12 shows that the usual source of health care sought from traditional healer, free governmental health service, health insurance and private health facilities, each constituting 1.7%, 58.3%, 2.7% and 34.3% respectively.

#### Table (13): Percent distribution of access to health information among females included in the study.

<table>
<thead>
<tr>
<th>Access to health information</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printed materials</td>
<td>71</td>
<td>23.7</td>
</tr>
<tr>
<td>Audiovisual message</td>
<td>240</td>
<td>80.0</td>
</tr>
</tbody>
</table>
Table 13 shows that cases with access to health information from printed materials are 23.7% and cases with access to health information from audiovisual message are 80%.

IV. Out of pocket expenditures reported by study participants

Table (14): Overall total out of pocket expenditures of all maternity patients included in study, by cost items.

<table>
<thead>
<tr>
<th>Cost Item</th>
<th>Mean</th>
<th>St. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>204.4</td>
<td>387.1</td>
<td>10</td>
<td>3714</td>
<td>80.0</td>
</tr>
<tr>
<td>Food</td>
<td>50.6</td>
<td>41.2</td>
<td>0</td>
<td>300</td>
<td>50.0</td>
</tr>
<tr>
<td>Admission Fees</td>
<td>17.4</td>
<td>13.7</td>
<td>3</td>
<td>60</td>
<td>15.0</td>
</tr>
<tr>
<td>Travel</td>
<td>39.1</td>
<td>57.5</td>
<td>2</td>
<td>600</td>
<td>20.0</td>
</tr>
<tr>
<td>Investigations</td>
<td>99.6</td>
<td>92.1</td>
<td>10</td>
<td>600</td>
<td>60.0</td>
</tr>
<tr>
<td>Tips</td>
<td>32.3</td>
<td>34.9</td>
<td>2</td>
<td>300</td>
<td>20.0</td>
</tr>
<tr>
<td>Total expenses</td>
<td>443.4</td>
<td>626.5</td>
<td>3</td>
<td>5574</td>
<td>245.0</td>
</tr>
</tbody>
</table>

Figure (4): Distribution of out of pocket expenses, by cost items.
Table (14) and figure (4) show that the mean out of pocket expenses on medicine, food, admission, travel, investigations and tips are L.E 204.4 ± 387.1, 50.6 ± 41.2, 17.4 ± 13.7, 39.1 ± 57.5, 99.6 ± 92.1, 32.3 ± 34.9 respectively.

N.B. By asking about the reason for purchasing food, the participants said “the food in the hospital is of poor quality”.

Table (15): Average length of stay of patients included in the study.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>St. Deviation</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Stay (days)</td>
<td>3.4</td>
<td>7.8</td>
<td>1</td>
<td>1</td>
<td>60.0</td>
</tr>
</tbody>
</table>

This table shows that the overall average length of stay was 3.4 ± 7.8 days with a minimum of 1 day and maximum of 60 days.

Table (16): Correlation between out of pocket expenditures and hospital stay of cases included in the study.

<table>
<thead>
<tr>
<th></th>
<th>Maternity patients out of pocket expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital stay</td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>0.352*</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>N</td>
<td>300</td>
</tr>
</tbody>
</table>

* Significant
Table 16 shows that there is a positive statistical significant correlation between the direct cost of the last delivery and hospital length of stay.

Table (17): Association of out of pocket expenditures and place of residence.

<table>
<thead>
<tr>
<th>Residence</th>
<th>Rural</th>
<th>Urban</th>
<th>Mann-Whitney test</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>STD</td>
<td>Mean</td>
<td>STD</td>
<td></td>
</tr>
<tr>
<td>Maternity patients out of pocket expenditures</td>
<td>381.9</td>
<td>564.0</td>
<td>262.4</td>
<td>380.6</td>
</tr>
</tbody>
</table>

Table 17 presents the mean out of pocket expenditure for cases living in rural areas and cases living in urban areas which was L.E 381.9 ± 564.0 and L.E 262.4 ± 380.6 respectively. It is evident that mean expenditure for patients from rural areas is significantly higher than those from urban areas.

Table (18): Association between mode of delivery and out of pocket expenditures.

<table>
<thead>
<tr>
<th>Mode of delivery</th>
<th>Normal delivery</th>
<th>Cesarean section</th>
<th>Mann-Whitney test</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>STD</td>
<td>Mean</td>
<td>STD</td>
<td></td>
</tr>
<tr>
<td>Direct cost of the last delivery</td>
<td>185.9</td>
<td>245.3</td>
<td>359.4</td>
<td>610.6</td>
</tr>
</tbody>
</table>

Table 18 presents the mean expenditure for normal and cesarean delivery which was L.E 185.9 ± 245.3 and L.E 359.4 ± 610.6 respectively. It is evident that mean expenditure was significantly different between
normal and cesarean delivery with higher out of pocket expenditures for the latter.

Table (19): Percent distribution of females included in the study according to their economic domain.

<table>
<thead>
<tr>
<th>Economic Domain</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In debt</td>
<td>19</td>
<td>6.3</td>
</tr>
<tr>
<td>Just meeting routine expenses</td>
<td>196</td>
<td>65.3</td>
</tr>
<tr>
<td>Meeting routine expenses and emergencies</td>
<td>51</td>
<td>17.0</td>
</tr>
<tr>
<td>Able to save/invest money</td>
<td>34</td>
<td>11.3</td>
</tr>
<tr>
<td>Receiving Governmental Support</td>
<td>7</td>
<td>2.3</td>
</tr>
<tr>
<td>Family pays tax</td>
<td>8</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Table 19 demonstrates that cases with income that make them in debt constitutes 6.3%, that cases with income just meet routine expenses constitute 65.3%, cases with income that meet routine expenses and emergencies constitute 17% and cases with income that make them able to save\invest money constitute 11.3%. Cases that have governmental support are 2.3% and cases that pay tax are 2.7%. 
Table (20): Percent distribution of sources of funds for out of pocket expenditure as reported by females included in the study.

<table>
<thead>
<tr>
<th>Source of funds borrowed</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrowing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>218</td>
<td>72.7</td>
</tr>
<tr>
<td>Yes</td>
<td>82</td>
<td>27.3</td>
</tr>
<tr>
<td>Neighbour</td>
<td>32</td>
<td>39.0</td>
</tr>
<tr>
<td>Sister</td>
<td>10</td>
<td>12.2</td>
</tr>
<tr>
<td>Father</td>
<td>7</td>
<td>8.5</td>
</tr>
<tr>
<td>Mother</td>
<td>9</td>
<td>11.0</td>
</tr>
<tr>
<td>Relatives</td>
<td>10</td>
<td>12.2</td>
</tr>
<tr>
<td>Friends</td>
<td>14</td>
<td>17.1</td>
</tr>
<tr>
<td>Interest rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>82</td>
<td>100</td>
</tr>
<tr>
<td>Yes</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Selling assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>290</td>
<td>96.7</td>
</tr>
<tr>
<td>Yes</td>
<td>10</td>
<td>3.3</td>
</tr>
<tr>
<td>Type of assets sold</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jewelery</td>
<td>6</td>
<td>60.0</td>
</tr>
<tr>
<td>Livestock</td>
<td>2</td>
<td>20.0</td>
</tr>
<tr>
<td>Tube cooker</td>
<td>1</td>
<td>10.0</td>
</tr>
<tr>
<td>Furniture</td>
<td>1</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Table 20 shows that patients who borrow money to pay for health care are (27.3%) of which 39%-borrow from neighbours, 12.2% from their sisters, 8.5% from their fathers, 11% from their mothers, 12.2% from other relatives and 17.1% from friends. On the other hand, patients who sold assets were 3.3% with 60% reporting to sell jewelry, 20% sold livestock, 10% sold tube cooker and 10% sold furniture.
Table (21): Distribution of participants by money gained from borrowing and selling assets.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>STD</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount borrowed</td>
<td>741.8</td>
<td>1057.3</td>
<td>50</td>
<td>5000</td>
<td>350.0</td>
</tr>
<tr>
<td>Sold assets</td>
<td>1250.0</td>
<td>1752.6</td>
<td>100</td>
<td>6000</td>
<td>600.0</td>
</tr>
</tbody>
</table>

Table 21 shows that the mean amount borrowed was L.E 741.8 ± 1057.3 with a minimum L.E 50 and maximum L.E 5000 and the mean amount gained through selling assets was L.E 1250.0 ± 1752.6 with a minimum L.E 100 and a maximum L.E 6000.

Table (22): Percent distribution of families by number of earning family members.

<table>
<thead>
<tr>
<th>Earning family members</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One member</td>
<td>256</td>
<td>85.3</td>
</tr>
<tr>
<td>Two member</td>
<td>36</td>
<td>12.0</td>
</tr>
<tr>
<td>3 or more than 3 member</td>
<td>8</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Table 22 demonstrates that families with one earning family member constitutes the highest percentage (85.3%).

Table (23): Distribution of study females, according to family monthly income.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>STD</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family monthly income</td>
<td>1512.7</td>
<td>718.3</td>
<td>150</td>
<td>4500</td>
<td>1500.0</td>
</tr>
</tbody>
</table>
Results

Table 23 demonstrates that the average family monthly income for cases included in the study was L.E 1512.7 ± 718.3 with a minimum L.E 150 and a maximum L.E 4500.

**Table (24): Percent distribution of cases included in the study suffering of reduced income.**

<table>
<thead>
<tr>
<th>Absence of the accompanying person from work</th>
<th>Frequency (N=300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>142</td>
<td>47.3</td>
</tr>
<tr>
<td>No</td>
<td>158</td>
<td>52.7</td>
</tr>
<tr>
<td>Reduced income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>74</td>
<td>52.1</td>
</tr>
<tr>
<td>No</td>
<td>68</td>
<td>47.9</td>
</tr>
</tbody>
</table>

This table shows that 47.3% of the accompanying persons were absent from their work and that 52.1% have consequently reduced income.

**Table (25): Distribution of cases according to companion opportunity cost of time and reduced income.**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>STD</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of days absent</td>
<td>3.4</td>
<td>4.9</td>
<td>1</td>
<td>35</td>
<td>2.0</td>
</tr>
<tr>
<td>Reduced income</td>
<td>165.7</td>
<td>193.5</td>
<td>30</td>
<td>1000</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 25 shows that the mean number of days absent from work was 3.4 days ± 4.9 with a minimum 1 day and a maximum 35 days and the mean amount of income reduction was L.E 165.7 ± 193.5 with a minimum L.E 30 and a maximum L.E 1000.
Table (26): Distribution of cases according to expenditure on maternity care as a percentage of family monthly income.

<table>
<thead>
<tr>
<th>Maternity care expenditure as % of family monthly income</th>
<th>Mean</th>
<th>STD</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24.2</td>
<td>38.5</td>
<td>0</td>
<td>381</td>
<td>11.0</td>
</tr>
</tbody>
</table>

Table 26 shows that the mean expenditure on maternity care as a percentage of family monthly income was 24.223 ± 38.4563 with minimum 0 and maximum 381.

Table (27): Expenditure on maternity care as a percentage of family monthly income.

<table>
<thead>
<tr>
<th>Maternity care expenditure as % of family monthly income</th>
<th>Frequency (number= 300)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5%</td>
<td>70</td>
<td>23.3</td>
</tr>
<tr>
<td>5.1- 10%</td>
<td>74</td>
<td>24.7</td>
</tr>
<tr>
<td>10.1- 15%</td>
<td>40</td>
<td>13.3</td>
</tr>
<tr>
<td>15.1- 20%</td>
<td>26</td>
<td>8.7</td>
</tr>
<tr>
<td>More than 20%</td>
<td>90</td>
<td>30.0</td>
</tr>
</tbody>
</table>

Table 27 shows that 76.7 % of families spent more than 5- 20% of their monthly income while 23.3 % spent less than 5 % of their monthly income.
DISCUSSION

This study addresses a vital issue related to costs of the healthcare services which is out of pocket expenditure. This issue has a priority position on the Egypt health policy agenda. Since 2008 and 2009, the vast majority of Egypt’s health spending (72 percent) came directly from household out-of-pocket (OOP) payments (Nakhimovsky et al., 2011). Out-of-pocket (OOP) payments for healthcare can cause households to incur catastrophic expenditures, pushing them into poverty (Bredenkamp and Gragnolati, 2011).

In countries where risk pooling mechanisms are available, people are protected from catastrophic spending (Xu et al., 2007) but many low- and middle-income countries experience high OOP payments and lack risk-sharing mechanisms, forcing households into hardship, asset depletion, debt, reduction of essential consumption, and sometimes financial catastrophe (Binnendijk et al., 2012).

Among the public sector financing agents, the national Health Insurance Organization (HIO) is Egypt’s primary insurance provider. HIO data show that the percentage of the population insured by HIO increased from 35 percent to 57 percent between 1994/95 and 2008/09. However, while HIO insurance coverage has spread, it remains below regional norms: Tunisia (99 percent), Iran (98 percent), and Jordan (83 percent) all have significantly higher health insurance coverage rates (Jordan 2007 NHA, 2009). Also, over the same time period the role of HIO as financing agent declined from 12 percent to 6 percent, while the share of OOP spending as part of total health expenditures (THE) rose from 51 percent to 72 percent.
The PTES (Program for Treatment at the Expense of the State) is another important public sector financing agent. The PTES is affiliated with and operated by the MOHP; it is not a completely autonomous entity like the HIO. It is a special discretionary fund that provides a safety net to cover the uninsured for a certain package of services. The PTES covered about 2.5 percent of the population and spent over three billion LE in 2008/09 (Egypt National Health Account 2008/2009).

In-depth analysis based on Household Health Expenditure and Utilization Survey (HHEUS) data provides further information about how insurance functions in Egypt. Comparing trends among the insured and uninsured shows that the insured incur less OOP expense than the uninsured, indicating that insurance is useful for those who have it. However, having insurance does not appear to affect the demand for health care, with similar percentages of insured and uninsured not receiving care when they need it. Having insurance also does not appear to affect the choice of provider, with, for example, a surprisingly large number of insured opting to use expensive private providers rather than HIO or MOHP facilities (Egypt National Health Account 2008/2009).

When women give birth, they are at risk of maternal complications, such complications can be both unpredictable and severe. In the absence of specialized care, the health of the mother and baby may rapidly deteriorate. The consequences of maternal complications, however, may not be limited to their immediate health impact. Women with obstetric complications may suffer consequences in terms of other problems, such as financial hardship, psychological distress, and longer-term health problems (Borghi et al., 2006).
All people aspire to receive quality, affordable health care. Universal health coverage (UHC) is about people having access to the health care they need without suffering financial hardship. UHC aims to achieve better health and development outcomes, help prevent people from falling into poverty due to illness, and give people the opportunity to lead healthier, more productive lives (World Bank, 2014).

In the last 2 years, the global UHC movement has gained momentum, with the World Health Assembly and the United Nations General Assembly calling on countries to “urgently and significantly scale up efforts to accelerate the transition towards universal access to affordable and quality healthcare services.” UHC is a continuation of the Millennium Development Goals and offers flexibility for countries to determine what will help them reach their health goals.

In 2014, the World Bank Group and the World Health Organization (WHO) released a joint framework for monitoring progress toward UHC with two goals: 1) Financial protection: By 2030, no one is pushed into or kept in poverty by paying for health care; and 2) Service delivery: By 2030, everyone has access to essential health services. Today, more than 30 middle-income countries are implementing programs that should push them down the road toward UHC, and many more low- and middle-income countries are considering launching similar programs (World Bank, 2014).

The current study was designed in order to provide a snapshot on the magnitude of out-of-pocket expenditures at the Kasr Al Ainy Obstetrics and Gynaecology teaching hospital that is affiliated to Faculty of Medicine, Cairo University in Egypt. The study included 300 maternity in-patients.
The primary research question was concerned with assessment of the amount and types of out of pocket expenditures by maternity in-patients. The secondary research question was related to identification of the factors influencing out of pocket expenditures among maternity in-patients.

The third question is concerned with determining possible coping strategies sought by households of maternity in-patients.

**General Characteristics of Study Participants:**

In addressing the socio-demographic characteristics of the study participants, the study shows that the mean age of females included in the study was 29.4 years ± 5.9 years (Table 1).

A similar study addressing costs and patterns of financing maternal health care services, *Nnennaya et al. (2013)* found that the mean age was about 29.0 years ± 2.0 years.

As regards occupation, housewives constituted 85% of all subjects included in the study (Table 2). Those who had semi-professional jobs (clerk) represented 10.3%, while 3% were unskilled manual worker, 1% farmers and 0.7% professionals (e.g teacher). These results are consistent with those of the World Bank 2012, showing labor force participation rates for women in Egypt as extremely low, hovering between 20 and 25% in the last ten years, compared to a global average of 52% (*World Bank, 2012*). Also in a study examining out of pocket payments in rural Ethiopia, *Akalu et al. (2012)* found that 83% of the women are housewives.

Table (2) also demonstrates the distribution of cases by educational level where cases with secondary level of education represented only 41.3% followed by those with no education (20.7%) then preparatory level
of education (16%) then intermediate level (9%). The least were cases that read and write. Females education is consistent with EDHS (2014) demonstrating that more than half of respondents have completed the secondary level or higher, reflecting the long-term trend toward increasing educational attainment among women in Egypt.

As regards female participants’ husbands education, those with secondary level of education were the highest (43%) followed by illiterate (14%) then intermediate institute (13.7%), and preparatory (12.7%) followed by primary (8.7%) then university education (6.7%). The least were cases that read and write (1.3%). As regards husbands’ occupation, those with semiprofessional jobs constituted the highest percentage (36.3%) and professional occupation (3.7%) was the least percentage (Table 3). This is consistent with EDHS (2014) that 86 percent of Egyptian males age 6 and over have completed the secondary level or higher.

Table (4) shows that the majority of the study participants were from urban areas (79.3%), that 98% of cases were living in house less than 4 rooms. This finding is rational since the hospital is situated in greater Cairo. This is also consistent with EDHS (2014), where 22 percent of Egyptian households have only one room that is used for sleeping in their dwelling, 60 percent live in a dwelling with 2 rooms for sleeping, and 18 percent had three rooms or more in which members of the household sleep.

As regards services available in study participants’ residence, Table (5) shows that the majority of study participants have access to pure water supply, and electricity (92.7%, and 97.7% respectively) while those who have natural gas in their homes represent only 39.3%. Participants reporting the availability of sewerage system, municipal collection of solid
waste, flush latrine and air conditioning constitute 71.3%, 56.7%, 69% and 4% respectively.

This is again consistent with EDHS (2014) results were 98% of households are found to have access to drinking water from an improved source. Increasing access to improved drinking water is one of the Millennium Development Goals (MDG) that Egypt along with other nations worldwide adopted (United Nations General Assembly 2001). Improved sources are defined as those sources which are likely to provide safe drinking water (WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation 2014). Improved sources include a piped source within the dwelling, a public tap, a tube hole or borehole, a protected well or spring and bottled water. Additional EDHS – 2014 findings report 91 percent of the Egyptian households having access to an improved, not shared toilet facility, that is, they have sole use of a toilet that flushes or pour flushes into a sewer, bayara (vault). Ensuring adequate sanitation facilities is another Millennium Development Goal. A household is classified as having an improved toilet if the toilet is used only by members of one household (i.e., it is not shared) and if the facility used by the household separates the waste from human contact (WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation 2014). Furthermore, 54% of households reported that kitchen waste or trash was collected either at the dwelling or from a container in the street (i.e., a container shared with others), all of the households in the EDHS sample had electricity, less than 5 percent had an air conditioning.

As regards number of family members, Table 6 shows that cases with family members less than 5 were the highest (69%). This is in
agreement with EDHS (2014), where the average household has 4.1 members. Thirty-seven percent of the households had three or fewer members, while 8 percent of the households have seven or more members. In general, rural households are larger than urban households. For example, only 5 percent of urban households have seven or more members, compared with 11 percent of rural households. The average urban household has 3.8 persons compared with 4.4 persons in rural areas.

Table (7) shows that crowding index with more than one person per room was found in 74% of families while crowding index with less than or equal one person per room constitutes 26% of families of females included in the study. Also in EDHS (2008), there was an average of 1.4 persons per room.

As regards family possessions, Table (8) shows that families having radio, television, washing machine, car, telephone, agricultural land, non-agricultural land, shop, other house, animals and computer constitute 75%, 97%, 96%, 3%, 94%, 5%, 2%, 4%, 5%, 24% and 21% respectively. Similarly, a majority of the households in the EDHS (2014) sample owned most basic appliances as television, radio, washing machine. Only 9 percent of households own a car, van, or truck. Households in rural areas are more likely than urban households to own agricultural land. Twenty percent of rural households own agricultural land, compared with only 3 percent of urban households. Overall, 11 percent of Egyptian households own farm animals, and one-quarter own poultry or birds.

Reproductive health features of females included in the study:

Concerning distribution of females included in the study by the medical condition of admitted cases, Table (9) shows that the majority of
females were either admitted for normal (31.6%) or cesarean (29%) deliveries followed by pre-eclampsia (22.7%) then abortion (16.7).

Table (10) shows the distribution of participants with co-morbidities. Only 175 females had medical co-morbidities or postpartum complications. Females who were diabetic represented only 3.7%, while those diagnosed with anemia were slightly over a quarter (27.7%). Females with associated renal, cardiac, and hepatic problems represented 2.7%, 4%, 4% respectively. Females who suffered postpartum hemorrhage and puerperal sepsis constituted 12.7% and 3.7% respectively. This is consistent with a study by Iyengar (2012) on early postpartum maternal morbidity among rural women of Rajasthan, India where the most common morbidity affecting females was anemia.

As regards history of antenatal care, Table (11) showed that all females were receiving antenatal care reflecting awareness about the importance of antenatal care for the health of mother and child has increased, this is consistent with (EDHS 2008 and EDHS 2014) (81% and 88% respectively). Those who were receiving it from Obstetric and Gynecology clinic constitute the highest percentage (44.7%) followed by private clinic (39.3%) then primary health care (16%). This finding is different from a study by Akalu et al. (2012) about examining out of pocket payments for maternal health in rural Ethiopia, where they found that a large majority of mothers utilize services from public facilities (94%) since services are expensive in private ones. Results of our study reflect a felt reality in Egypt, where PHC services are viewed by many as poor quality services and most seek the services either from university hospitals or private clinics.
**Health seeking behaviors and information among females in the study:**

As regards usual source of health care, Table (12) shows that usual source of health care sought from traditional healer, free governmental health service, health insurance and private health facilities, each constituting 1.7%, 58.3%, 2.7% and 34.3% respectively. This is consistent with *(Egypt national health accounts 2008 and 2009)* that a large number of insured opting to use expensive private providers.

As regards access to health information, Table (13) shows that cases with access to health information from audiovisual message were highest than those with access through printed materials (80% and 20% respectively). This result is also concomitant with the fact that higher educational attained levels are rather low among study participants and among females in general in Egypt *(EDHS 2014)* (more than half of respondents have completed the secondary level or higher, hence the preference of audiovisual messages.

**Out of pocket expenditures reported by study participants:**

In this study, the median out of pocket expenditure was found to be L.E 80 ($ 10.7), L.E 50 ($ 6.7), L.E 15 ($ 2.0), L.E 20 ($ 2.7), L.E 50 ($ 6.7) and L.E 20 ($ 2.7) for medicine, food, admission, transport, investigations and tips respectively.

Similarly in a study by *Akalu et al. (2012)*, where they found that the median out of pocket expenditure for medicine was $ 10.8, for investigations $ 5.1, for admission $ 2.2 and for transport $ 3.2. Similarly in a study by *Rob et al (2011)*, where they found that expenditure on medicine accounted the largest component of OOP expenses, on average medicine represented about 36% of OOP expenses and in a study on
As reported by Quayyum et al. (2010), expenditure on obstetric care accounted for 34% of the total expenditure.

This is against the global movement towards universal health coverage that all people have access to health care they need without suffering financial hardship (World Bank, 2014).

All patients were supposed to be provided with the required medicines free from the hospital but were not. Medicines included antibiotics, analgesics, syringe, catheter, blood and so forth. Medicine was usually bought when patients were admitted at night. The medicine required for treatment is ordered by the on-duty physician but it takes several hours for the hospital management to process the order. Thus, no free medicine is available immediately. To start the treatment, the on-duty physician requests the patient's relatives to buy the medicine which is purchased from nearby private pharmacies. All tests (e.g. pathology, radiology) are supposed to be provided by the hospital but sometimes the patients had the tests done in a private laboratory because waiting time for tests is very long in the hospital due to the high patient load.

Food is provided by the hospital but the interviewees found the hospital food of poor quality.

Tips (bakshish) are payments made to cleaning workers and guards. Cleaning workers were given tips for routine services such as pushing the patient's trolley to and from the labour/operation room, shaving the patient before delivery/surgery, giving enemas, …etc. Guards at the gates were tipped each time a relative came to visit the patient during non-visitor hours. However, ayahs and guards are salaried hospital employees and are supposed to provide these services free of charge. The patients were
reluctant when talking about the tips probably because they were still hospitalized and depended on these employees for access to certain services.

Travel and hospital admission fee are not supposed to be covered by the hospital. Travel expenses consisted of travel to and from the hospital by the patient and any accompanying relatives, and travel expenditures of relatives during hospitalization for purchasing medicine and food for the patient. The patients came to Obstetric and Gynecology Hospital Kasr Al-Aini because they expected 'free' and 'affordable' services compared to private clinics, or they were referred from a primary/secondary level facility, or to get better treatment here.

As regards the average length of stay of patients, it was found to be 3.4 days ± 7.8 days with a median 1 day, a minimum of 1 day and maximum of 60 days (Table 15), because this study included different categories with some females need to be admitted for 1 day like normal and cesarean deliveries and other cases need to be admitted for longer period like some cases of recurrent abortion.

These findings were different from those reported by Khan (2005) about maternity patient expenditures in a public hospital in Bangladesh, where the median duration of hospitalization was 8.0 days (range 1-34 days) per patient. This difference was due to difference in the case mix between the two studies.

Table (16) shows that there is a positive statistical significant correlation between the direct cost of the last delivery and Hospital length of stay. Similarly in a study by Khan (2005), found that duration of hospitalization increased patient out of pocket expenditures.
Table (17) presents the mean out of pocket expenditure for cases living in rural areas and cases living in urban areas which was L.E 381.9 ± 564.0 and L.E 262.4 ± 380.6 respectively. It is evident that mean expenditure for patients from rural areas is significantly higher than those from urban areas. It is assumed that there are higher travel expenses for patients from rural areas. Also in a study by Khan (2005), the mean patient expenditure was higher for rural than urban respondents.

Table (18) presents the mean expenditure for normal and cesarean delivery which was L.E 185.9 ($ 24.8) ± 245.3 and L.E 359.4($ 47.9) ± 610.6 respectively. It is evident that mean expenditure was significantly different between normal and cesarean delivery with higher out of pocket expenditures for the latter.

Similarly in a study by Modugu et al. (2012), where they found that the mean expenditure for normal delivery was $ 24.7 ± $ 22.4 and the mean expenditure for cesarean section was $ 58.3 ± $ 51.6.

In this study from Table (19), it was found that cases able to save were (11.3%) and the majority of cases don’t receive governmental support nor pay tax. Similarly in EDHS (2014), few Egyptian households have at least one member with a bank/savings account (8 percent). Urban households are more than two times as likely as rural households to have an account.

As regards coping strategies sought by maternity patients, Table (20) showed that 27.3% had borrowed to pay for maternity expenses, it was evident that there is no interest rate for the borrowed amount reflecting the religious background of the Egyptian residents. Only 3.3% of females in the study sold assets to pay for maternity expenses. This is moderately in
agreement with study by (Leive and Xu, 2008) about coping with out-of-pocket health payments, where around 30% of households financed out of pocket expenditure by borrowing, in a study by Mbeeli et al. (2011) about resource flows for health care, where they found that 23% of households financed out of pocket expenditure by borrowing and 2.9% of households financed out of pocket expenditure by selling assets. Similarly in a study by Begum et al. (2014) on funds for treatment of hospitalized patients, they found that 2.1% financed out of pocket expenses by loosing assets and 22% by borrowing.

These findings were different from those reported by Jolene et al. (2011) about maternal and neonatal health expenditure in India, where they found that borrowing was (17.41%) and selling assets was 0.17% as most maternal and neonatal expenditure was financed with savings, current income from wage and salary.

As regards money gained from borrowing and selling assets, Table (21) shows that the mean amount borrowed was L.E 741.8 ($ 98.9) ± 1057.3 with a minimum L.E 50 and maximum L.E 5000 and the mean amount gained through selling assets was L.E 1250.0 ($ 166.7) ± 1752.6 with a minimum L.E 100 and a maximum L.E 6000.

Table (22) demonstrates that families with one earning family member constitutes the highest percentage (85.3). Also it is consistent with the CAPMAS results that show that the unemployment rate has escalated in the Wake of recent economic instability; climbing from 11.9% in the first quarter of 2011, to 13.2% in the first quarter of 2013 (CAPMAS, 2013).
Concerning family income, Table (23) demonstrates that the average family monthly income for cases included in the study was L.E 1512.7 ($201.7) ± 718.3 with a minimum L.E 150 and a maximum L.E 4500. Also in a study by Aarva et al (2009), where the average monthly income was found to be roubles 10000 ($200) in Lipetsk region in Russia.

As regards the absence of the accompanying person from work and effect of this absence on family monthly income, 47.3% were absent from work and 52.1% had reduced income (Table 24).

Similarly in a study by Borghi et al. (2008) about household costs of healthcare during pregnancy, delivery, and the postpartum period, found that 55% of households reported the companion/s losing income as a result of accompanying the delivering woman. The opportunity cost of companion time is therefore also likely be factored into the decision-making process about seeking care.

As regards the companion opportunity cost of time, Table (25) shows that the mean number of days absent from work was 3.4 days ± 4.9 with a minimum 1 day and a maximum 35 days and the mean amount of income reduction was L.E 165.7 ± 193.5 ($22.1) with a minimum L.E 30 and a maximum L.E 1000. This is consistent with a study by Bennis and Vincent (2012), where they found that the average amount lost as a result of temporary cessation of work was $24.0 ± $14.0.

Concerning the maternity care expenditure as a percentage of family monthly income, Table (26) shows that the average percentage was 24.2 ± 38.5 consequently families will be exposed to financial catastrophe that occur when expenditures exceed 5 to 20 percent of income (McIntyre et
Table (27) shows that females who spent more than 5% of their monthly income constitute 76.7% of all participants.

This is consistent with a study by Adhikari et al. (2009), where they found that 75 percent of households spent more than 5% of their income on health care.

Main findings of this study demarcate that maternity patients incurred substantial out-of-pocket expenditures for travel, hospital admission fees, medicine, tests, food, and tips. Furthermore, one third of females had to borrow to pay for health care. This is against the global movement towards universal health coverage that all people have access to health care they need without suffering financial hardship.
The current thesis is addressing a vital issue related to health spending which is out of pocket expenditure. This issue has a priority position on the Egypt health policy agenda since in 2008 and 2009, the vast majority of Egypt’s health spending (72 percent) came directly from household out-of-pocket payments.

Out-of-pocket payments for healthcare can cause households to incur catastrophic expenditures, pushing them into poverty. In countries where risk pooling mechanisms are available people are protected from catastrophic spending but many low- and middle-income countries experience high OOP payments and lack risk-sharing mechanisms, forcing households into hardship, asset depletion, debt, reduction of essential consumption, and sometimes financial catastrophe.

The study concluded that maternity patients incurred substantial out of pocket expenditures for travel, hospital admission fees, medicine, tests, food, and tips. Only two of the expenditures, travel expenses and admission fees, were not supposed to be provided free of charge by the hospital. The median total per-patient expenditure was L.E 235 (range L.E 3–L.E 5574). One third of all patients reported that their families had to borrow to pay for care. 3.3% of these families reported selling jewelry, livestock or household items. There is a positive statistical significant correlation between the direct cost of the last delivery and hospital length of stay and it was evident that mean expenditure for patients from rural areas is significantly higher than those from urban areas.
RECOMMENDATIONS

1. The study results show that obstetric care costs are significant. The official charges interact with unofficial costs, transport costs and time costs resulting in catastrophic expenditures and debt, particularly in the event of complications. Setting standard and well-publicized prices would reduce the unpredictability of costs.

2. Hospital management needs to ensure that patients pay only the official rate of admission fees, while making emergency care for complications, including fees for complications resulting from unsafe and incomplete abortions affordable.

3. Measures should be taken to ensure that patients do not pay tips to salaried hospital staff for routine services.

4. Equitable resource allocation to health at national level and at different health facilities should be considered, with more going to sub-district level health facilities, which will increase accessibility for the rural, poor population.

5. Reducing catastrophic and impoverishing health spending should be a policy priority. Through our findings, we aim to draw policymakers’ attention to this hidden aspect of poverty propagation and intensification. This evidence will aid policy design, particularly in terms of protecting poor households from the financial risks of high OOP payments.

6. In the longer term, in order to address the medical poverty trap, consideration needs to be given to changing from direct payments at the point of service delivery to a social health insurance system in which healthy, high-income groups subsidize health care for low-income groups.

7. This was a cross-sectional study; we recommend a large-scale study to explore the real situation prevailing in our country.
SUMMARY

The vast majority of Egypt’s health spending (72 percent) came directly from household out-of-pocket (OOP) payments, these payments for healthcare can cause households to incur catastrophic expenditures, pushing them into poverty. In countries where risk pooling mechanisms are available people are protected from catastrophic spending but many low- and middle-income countries experience high OOP payments and lack risk-sharing mechanisms, forcing households into hardship, asset depletion, debt, reduction of essential consumption, and sometimes financial catastrophe.

When women give birth, they are at risk of maternal complications, such complications can be both unpredictable and severe. In the absence of specialized care, the health of the mother and baby may rapidly deteriorate. The consequences of maternal complications, however, may not be limited to their immediate health impact. Women with obstetric complications may suffer consequences in terms of other problems, such as financial hardship, psychological distress, and longer-term health problems. The main goal of this study was to assess the amount and types of out of pocket expenditures by maternity in-patients at one of the Obstetric and Gynecology departments of Kasr Al- Ainy teaching hospitals.

This study was a descriptive cross-sectional study where 300 maternity patients from the Obstetrics and Gynecology Hospital were asked to participate in the study to explore out of pocket expenditures, and influencing factors. The expenditures were assessed using semi-structured in-depth interview questionnaire.

The key findings of the study can be summarized under the following broad lines:
In this study, the majority of the study group were from urban areas (79.3%), that 98% of cases were living in house less than 4 rooms with crowding index more than one person per room was found in 74% of families while crowding index with less than or equal one person per room constitutes 26% of families of females included in the study. Also, the mean age of participants was 29.4 years ± 5.9 years.

Females with secondary level of education represented 41.3% followed by those with no education (20.7) then preparatory level of education (16%) then intermediate level (9%). The least were cases that read and write. Housewives constituted 85% of all subjects included in the study.

The majority of females were either admitted for normal (31.6%) or cesarean (29%) deliveries followed by pre-eclampsia (22.7) then abortion (16.7). Only 175 females had medical co-morbidities or postpartum complications. Females who were diabetic represented only 3.7%, while those diagnosed with anemia were slightly over a quarter (27.7%). Females with associated renal, cardiac, and hepatic problems represented 2.7%, 4%, 4% respectively. Females who suffered postpartum hemorrhage and puerperal sepsis constituted 12.7% and 3.7% respectively.

This study showed that the average length of stay of patients, it was found to be 3.4 days ± 7.8 days with a minimum of 1 day and maximum of 60 days and there is a positive statistical significant correlation between the direct cost of the last delivery and Hospital length of stay.

In this study, the median out of pocket expenditure was found to be L.E 80 ($ 10.7), L.E 50 ($ 6.7), L.E 15 ($ 2.0), L.E 20 ($ 2.7), L.E 50 ($ 6.7) and L.E 20 ($ 2.7) for medicine, food, admission, transport, investigations and tips respectively.
The mean out of pocket expenditure for cases living in rural areas and cases living in urban areas which was L.E 381.93 ± 564.02 and L.E 262.39 ± 380.64 respectively. It was evident that mean expenditure for patients from rural areas is significantly higher than those from urban areas.

The mean expenditure for normal and cesarean delivery which was L.E 185.95 ($ 24.8) ± 245.30 and L.E 359.38($ 47.9) ± 610.63 respectively. It is evident that mean expenditure was significantly different between normal and cesarean delivery with higher out of pocket expenditures for the latter.

In this study the mean family monthly income for cases included in the study was L.E 1512.70 ($ 201.7) ± 718.259 with a minimum L.E 150 and a maximum L.E 4500.

The coping strategies sought by maternity patients showed that 27.3% had borrowed to pay for maternity expenses, it was evident that there is no interest rate for the borrowed amount reflecting the religious background of the Egyptian residents. 3.3% of females in the study sold assets to pay for maternity expenses.

In this study 52.1% of households reported the companion/s losing income as a result of accompanying the delivering woman. Average amount lost as a result of temporary cessation of work was L.E 165.68 ± 193.522.

In this study, females who spent more than 5% of their monthly income were 76.7% of all participants.
REFERENCES


Kasr Al-Aini Accounting Unit (2013): Diagnosis of patients admitted to Obstetric and Gynecology Hospital.


Rutstein S and Johnson K (2004): The DHS wealth index. DHS Comparative Reports No. 6. Calverton, Maryland, USA: ORC Macro.


References


Annex 1

غرض هذا البحث هو التعرف على نوعية وكم المصاريف التي تتحملها الأمهات أثناء الحمل والولادة وتعمل معنا في استكمال الاستمارة بدقة سيساعدنا في الوصول إلى نتائج حقيقية وحلول مناسبة.

جميع بيانات هذه الاستمارة سرية ولن تستخدم إلا في أغراض البحث العلمي.

رقم الاستمارة: ..................
التاريخ: / /

بيانات شخصية واجتماعية:

1- الاسم: ............................

2- السن: ..................

3- العنوان:
   - ريفية □
   - حضرية □

العنوان بالتفصيل: ......................................

4- ما هو عدد الحجرات بالمنزل؟ ................................................

   - نوع المنزل: 1- تمليك وأكثر من أو يساوي 4 غرف □
   - تمليك وأقل من 4 غرف □
   - ايجار وأكثر من أو يساوي 4 غرف □
   - ايجار وأقل من 4 غرف □
   - لا يوجد مكان للإقامة □
٦- مدى الاصلاح البيئي للمنزل:

الخدمات (احد لكل بند موجود):

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<th>نعم</th>
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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td></td>
<td>٢ كهرباء</td>
</tr>
<tr>
<td></td>
<td>٣ غاز طبيعي</td>
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<tr>
<td></td>
<td>٤ نظام صرف صحي</td>
</tr>
<tr>
<td></td>
<td>٥ نظام لجمع القمامة</td>
</tr>
<tr>
<td></td>
<td>٦ مرحاض بسيفون</td>
</tr>
<tr>
<td></td>
<td>٧ تكييف</td>
</tr>
</tbody>
</table>

٧- التعليم:

تعليم الزوجة: ما هي اخر درجة توصلتي اليها في التعليم؟

<table>
<thead>
<tr>
<th>دراسات عليا</th>
<th>خريج جامعة</th>
<th>التعليم متوسط</th>
<th>ثانوي/دبلوم</th>
<th>اعدادي</th>
<th>ابتدائي</th>
<th>يقرأ ويكتب</th>
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<tbody>
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</tbody>
</table>

تعليم الزوج: ما هي اخر درجة توصلتي اليها زوجك في التعليم؟

<table>
<thead>
<tr>
<th>دراسات عليا</th>
<th>خريج جامعة</th>
<th>التعليم متوسط</th>
<th>ثانوي/دبلوم</th>
<th>اعدادي</th>
<th>ابتدائي</th>
<th>يقرأ ويكتب</th>
</tr>
</thead>
<tbody>
<tr>
<td>٦</td>
<td>٧</td>
<td>٥</td>
<td>٨</td>
<td>٦</td>
<td>٤</td>
<td>٢</td>
</tr>
</tbody>
</table>

٩٦
الناحية الثقافية

ما مصدر معلوماتك الطبية:

8.1 الوسائل المطبوعة: كتب، جرائد، مجلات، بوسترات، ...

<table>
<thead>
<tr>
<th>نعم</th>
<th>لا</th>
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</thead>
</table>

8.2 الوسائل المسموحة أو المرئية: راديو، تلفزيون

<table>
<thead>
<tr>
<th>نعم</th>
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</thead>
</table>

9- العمل:

- عمل الزوجة: يشتغل ايها؟

<table>
<thead>
<tr>
<th>ربة منزل</th>
<th>عامل غير حرفى</th>
<th>عامل حرفى/فاتح</th>
<th>تاجر/رجل اعمال</th>
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</thead>
<tbody>
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<td>4</td>
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</table>

- عمل الزوج: تشتغل ايها؟

<table>
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<tr>
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<th>عامل غير حرفى</th>
<th>عامل حرفى/فاتح</th>
<th>تاجر/رجل اعمال</th>
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</thead>
<tbody>
<tr>
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<td>4</td>
<td>5</td>
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</tr>
</tbody>
</table>

10- بيانات عن الأسرة:

10.1- ما هو عدد أفراد الأسرة: 1- أكثر أو يساوي خمس أفراد

2- أقل من خمس أفراد
١ - ما هو عدد الأفراد العاملين في الأسرة:

- ٢- فرد واحد
- ٣- أكثر من أو يساوي ٣ أفراد

٢٠٠٣ - مؤشر الازدحام (عدد أفراد الأسرة مقسم على عدد حجرات المنزل):

- أقل من أو يساوي شخص بالحجرة
- أكثر من شخص في الحجرة

١١- ممتلكات الأسرة:

<table>
<thead>
<tr>
<th>رقم</th>
<th>نعم لا</th>
</tr>
</thead>
<tbody>
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<td>نعم</td>
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<td>٢</td>
<td>نعم</td>
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<td>نعم</td>
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<td>لا</td>
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<td>لا</td>
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<td>١١</td>
<td>لا</td>
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<tr>
<td>١٢</td>
<td>لا</td>
</tr>
</tbody>
</table>

١٦ - الجانب الاقتصادي:

١٢٠١ - ما هو متوسط دخل الأسرة (في الشهر)؟
Appendices

١٢.٢ - هل مجموع الدخل كله:

☐ ٠ - يجعلك مديون

☐ ١ - يكفي الاحتياجات الأساسية

☐ ٢ - يكفي الاحتياجات الأساسية والطوارئ

☐ ٣ - تقدر تدخر أو تستثمر الفلوس

١٢.٣ - هل الأسرة تتلقى دعم حكومي؟

☐ نعم 

☐ لا

١٢.٤ - هل الأسرة تدفع ضرائب؟

☐ نعم

☐ لا

١٣ - جانب الرعاية الصحية:

بتروحي فين لما تحبي ت تعالج

☐ ١ - عيادة خاصة

☐ ٣ - تأمين صحي

☐ ٢ - مستشفى حكومي

☐ ٤ - أكثر من واحد مما سبق

☐ ٥ - حلاق صحة/ داية/ بتعالجي نفسك
Annex 2

بيانات عن السمة الإنجابية:

14 - كنتي بتابعي الحمل فين:

   1- لم اتابع
   2- عيادة نسا وتوليد
   3- وحدة صحية
   4- عيادة خاصة
   5- قصر
   15- ولدتي ازاي: طبيعى

   نعم انتقل الى

16- هل حصل اي مشاكل بعد الولادة: لا

17- ايه هي؟

   1- نزيف
   2- حمى النفاس
   3- اخرى، تذكر ................

18- يقالك كام يوم في المستشفى؟

19- هل تعاني حالياً من أي مرض:

   1- لا أعاني
   2- سكر
   3- أنيميا (فقر الدم)
   4- ارتفاع ضغط الدم
   5- مشكلة في الكلى
   6- مشكلة في الكبد
   7- اجهاض
Annex 3

بيانات عن النفقات التي تتحملها الأمهات:

٠٢ - ما هي المصروفات التي تحملها في هذه الولادة؟

* العلاج مثل الدواء، سرطانات، قسطرات، دم، .... : .. جنيه

* الطعام (المرضى والمراقق) : .. جنيه

* مصاريف الدخول: .. جنيه

* مصاريف السفر (للمرضى والمراقق): .. جنيه

* الفحوصات : .. جنيه

* البكشيش : .. جنيه

١٢ - هل استفتى让你承担医疗费用？

لا ☐

نعم انتقل إلى س ..

٢٢ - كم استفتى؟ ..

٢٣ - (ممن استفتى)؟

٢٤ - هل المبلغ هيدر بفائدة؟ (استفتى بالفأظ)؟

لا ☐

نعم انتقل إلى س ..
25- قد ايه؟

26- هل بعتي أي ممتلكات علشان تصرفي على الولادة و العلاج؟
- لا □ نعم انتقل إلى س □

27- ايه هي؟ بعتيها بكام؟

28- في أيام وجودك في المستشفى هل أي حد من المرافقين غاب عن شغله؟
- لا □ نعم انتقل إلى س □

29- غاب كام يوم؟

30- هل هذا الغياب أدى لقلة الدخل في اسرتك؟
- لا □ نعم انتقل إلى □

31- خصم اد ايه؟
## Annex 4

Diagnosis of admitted cases in 2013, according to hospital records.

<table>
<thead>
<tr>
<th>Inpatient Diagnosis</th>
<th>Six months</th>
<th>Percent (%)</th>
<th>One year</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missed abortion</td>
<td>308</td>
<td>3.9</td>
<td>668</td>
<td>4.3</td>
</tr>
<tr>
<td>Threatened abortion</td>
<td>185</td>
<td>2.3</td>
<td>365</td>
<td>2.3</td>
</tr>
<tr>
<td>Unspecified abortion – complete unspecified without complication</td>
<td>290</td>
<td>3.7</td>
<td>628</td>
<td>4.0</td>
</tr>
<tr>
<td>Normal delivery</td>
<td>3529</td>
<td>44.5</td>
<td>6954</td>
<td>44.8</td>
</tr>
<tr>
<td>Cesarean delivery</td>
<td>3251</td>
<td>41.0</td>
<td>6103</td>
<td>39.3</td>
</tr>
<tr>
<td>Delivery by caesarean hysterectomy</td>
<td>15</td>
<td>0.2</td>
<td>45</td>
<td>0.3</td>
</tr>
<tr>
<td>Ectopic pregnancy</td>
<td>288</td>
<td>3.6</td>
<td>633</td>
<td>4.1</td>
</tr>
<tr>
<td>Eclampsia in labour</td>
<td>56</td>
<td>0.7</td>
<td>128</td>
<td>0.8</td>
</tr>
<tr>
<td>Others</td>
<td>4</td>
<td>0.05</td>
<td>8</td>
<td>0.05</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>7,926</strong></td>
<td><strong>100</strong></td>
<td><strong>15,532</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
الخلاصة

الأهداف:
قامت هذه الدراسة باستقصاء: أ. كمية وأنواع النفقات الشخصية من قبل الأمهات، ونُسِمَت في أحد أقسام النساء والوليد في مستشفى القصر العيني الجامعي. ب. العوامل المؤثرة على هذه النفقات. ج. عبء هذه النفقات. د. استراتيجيات التعامل المحتملة التي تم البحث عنها من خلال عائلة أسر الأمهات.

الوسائل: تم ضم كل السيدات في الفئة العمرية 15-49 عام في إطار عينة البحث. وقد اختار عينة عشوائية بسيطة من 300 سيدة وقد تم عمل مقابلة شخصية مع هؤلاء السيدات باستخدام استبيان نصف هيكلي عميق.

النتائج: تمكن كل السيدات الثلاثي تم مقابلتهن نفقات جوهرية في التنقلات ومصاريف الحجز بالمستشفى والدواء والفحوصات والطعام والبيشيش وغيرها من النفقات وردت فقط من هذه النفقات ليس من المفترض تقديمهماماً بالمستشفى، وهم مصاريف التنقلات ومصاريف الحجز بالمستشفى.

والمستخدَم الوسيط كانت النفقات الكلية للسيدة 235 جنيهًا مصريًا قدر أر بـ 3 - 54 جنيهًا مصريًا، وصربت ثلاث السيدات بأن عائلاتهم اضطرراً للاقتراع لدفع نفقات الرعاية الصحية وذلك بدون فوائد على المبلغ المفترض. كما صرح 3.3% من هذه العائلات بأنهم قاموا ببيع مجوهرات ومش Ми وأدوات منزلية لدفع نفقات الرعاية الصحية وقد كانت نفقات مرضى المناطق الريفية أعلى من مرضى المناطق الحضرية.

أما العوامل التي تؤدى إلى زيادة النفقات فهي فترة الإقامة في المستشفى وسكان المناطق الريفية والإجراءات الطبية الضرورية (الولادة القصيرة....).

الاستنتاج: تفرض الخدمات المجانية المقدمة للأميات في مصر كثير من النفقات الشخصية على المرضى، ويمكن للسلطات تقليل هذا العبء بتقليل فترة الإقامة بالمستشفيات والحد من استخدام الإجراءات الطبية والقضاء على ظاهرة البيشيش ونقل الخدمات الطبية الاعتيادية بالقرب من إقامة المرضى المتوقع احتياجهم لها.

كلمات البحث: النفقات الشخصية، النفقات الكارثية، الموارد المالية للصحة.
المختص باللغة العربية

تأتي الغالبية العظمى (72%) من حجم الإنفاق المصري على الصحة مباشرة من النفقة الخاصة للعائلة. هذه النفقات الموجهة للرعاية الصحية يمكن أن يتسبب في إنفاق لكارثي للعائلات مما يدفع ناحية الفقر، وفب البلدين التي تتوافر فيها طرق تجميع المخاطر توجد حماية للأفراد من الإنفاق الكارثي ولكن في البلاد ذات الدخل المتوسط والمنخفض.

توجد نسبة عالية من الإنفاق الخاص على الصحة وتتفوق إلى طرق تقاسم المخاطر مما يدفع العائل ناحية المعاناة واستثمار الممتلكات والاقتراس ونقص الاستهلاك الضروري وفي بعض الأحيان إلى كارثة مالية.

وتكون المرأة عند الولادة عرضة للمضاعفات وقد تكون هذه المضاعفات شديدة وغير متوقعة، وفي غياب الرعاية المتخصصة فإن الحالة الصحية للأم والطفل قد تتدحر سريعاً، ولكن قد لا تتفق عوائق مضاعفات الأم عند التأثير الحيوي على الصحة، فالسيدات اللائي تعرضن لمضاعفات في الولادة قد يعانين من عوائق مشكلات أخرى مثل المعاناة المالية، الضغط النفسي، الشكوك الصحية، وال.THUS، والتهديد بالاحتباس.

وهو ما يجعل من الضروري قياس حجم وأنواع الإنفاق الشخصي للأم في أحد أقسام النساء والتوليد في مستشفى قصر العيني الجامعي.

وقد هذه الدراسة وصفية عرضية حيث طلب من 300 شابة من مرضى مستشفى النساء والتوليد المشاركة فيها وذلك لاستكشاف المفاهيم من النتائج الشخصية والعامل المؤثر.

وتم قياس النتائج بواسطة مقابلة شخصية باستبان نصف هيكلي عميق.

ويمكن تلخيص النتائج البحثية الأساسية لهذه الدراسة فيما يلي:

كانت معظم مجموعات البحث في هذه الدراسة من مناطق الحضر (79.3%) ويعيش 98% من الحالات في منزل يقل عن 4 حجرات ومعامل ازدحام أعلى من فرد للغرفة في 74% من العائلات بينما معامل الازدحام الأقل من أو يساوي فرد للغرفة يمثل 26% من عائلات السيدات المتضمنات في هذه الدراسة.
وكان متوسط أعمار المشاركات 29.4 ± 5.9 عام. أما السيدات الحاصلات على المرحلة التعليم الثانوية، فكانت نسبة 41.3% يليهن الغير متعلمات بنسبة 20.7% ثم المرحلة الإعدادية 16% ثم التعليم المتوسط 9% وأقلهن نسبة كانت تلك اللاتي يستطعن القراءة والكتابة.

وكانت نسبة رئات البيوت 85% من الحالات المتضمنة في هذه الدراسة. وتم حجز أغلبية السيدات بالمستشفى للولادة الطبيعية وكُن 31.6% أو القصيرة 29% أو بسبب تسمم الحمل 22% أو الأجهاض 16.7% . وقد عانت 175 سيدة فقط من أمراض مصاحبة أو مضاعفات ما بعد الولادة.

وتتمثل السيدات اللاتي يعانين من مرض السكر بنسبة 3.7% فقط بينما اللاتي تم تشخيصهن بالأنيميا فكانت أكثر قليلاً من ربع العدد بنسبة (27.7%) والسيدات اللاتي يعانين من أمراض مصاحبة كالكلى والقلب والكبد فيناثن 2.7% ، 4% . 4% على التوالي.

وتتمثل السيدات اللاتي عانين من نزيف ما بعد الولادة وحمى النفاس نسبتي 12.7% و 3.7% على التوالي.

وأظهرت هذه الدراسة أن متوسط فترة إقامة المريضة في المستشفى كانت 3.4 ± 7.8 يوم بعد أنى يوم واحد وحد أقصى 30 يومًا وكانت هناك علاقة إحصائية مطردة هامة بين الكلفة المباشرة للولادة الأخيرة وفترة الإقامة بالمستشفى.

وباستخدام الوسيط في هذه الدراسة فكانت المصروفات من النفقة الشخصية 80 جنيه مصري (7.9 دولارات للدواء ، 50 جنيهًا مصريًا (7.7 دولارات) للطعام ، 15 جنيهًا مصريًا (1.7 دولارات) للفقاط ، 0 جنيهًا مصريًا (0.1 دولارًا) للسكن.

كان متوسط المصروفات من النفقة الشخصية بالنسبة للحالات المقيمة في الريف 381.93 ± 32.04 جنيه مصريًا أما الحالات المقيمة في الحضر فكان متوسط المصروفات من النفقة الشخصية 262.39 ± 138.06 جنيه مصريًا.
وكان من الواضح أن متوسط المصروفات لمرضى المناطق الريفية أعلى بشكل كبير من هؤلاء القادمون من المناطق الحضرية.

وكان متوسط النفقات للولادة الطبيعية والقصيرية هو 185.95 جنيه مصري (24.8 دولارًا) ± 245.3 جنيه مصري و 359.38 جنيه مصري (7.9 دولارًا) ± 62.73 جنيه مصري على التوالي.

وكان من الواضح أن متوسط المصروفات مختلف بشكل كبير بين الولادة الطبيعية والقصيرية حيث تكلفت الأخيرة نفقات أكثر.

كان متوسط الدخل الشهري للأسرة في هذه الدراسة 1512.70 جنيه مصري (718.25 دولارًا) وذلك بحد أدنى 150 جنيه مصري وحد أقصى 450 جنيه مصري.

ولقد أظهرت الاستراتيجيات التي حصلت عليها السيدات أن 22.3% قد افترضن لكي يتمكن من دفع نفقات الرعاية الصحية، وكان من الواضح أنه لا يوجد فوائد على المبالغ المقترضة مما يعكس الخلفية الدينية للشعب المصري. كما أن 32.3% من السيدات المتضمنات في هذه الدراسة قد من بيع ممتلكاتهم ليتمكن من دفع نفقات الرعاية الصحية.

وأظهرت هذه الدراسة أن 52.1% من المرافقين للعائلات قد خسروا بعض الدخل جراء مراقبتهم للسيدة في وقت الولادة، متوسط الخسائر كنتيجة للتوقيف المؤقت عن العمل كان 165.68 جنيه مصري (193.52 دولارًا) ± 214.71 جنيه مصري في هذه الدراسة، أما السيدات اللاتي أنفقن أكثر من 5% من دخلهن الشهري فكاننولمو مثلن نسبة 72.7% من المشاركات.
النفقات التي تتحملها الأمهات الحوامل والمرضى في مستشفى النساء والتوليد بالقصر العيني

رسالة مقدمة من الطبيبة / رغدة مصطفى مصطفى السيد
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