

Developing a Protocol for Nursing Performance Related to Child Health at Ambulatory Health Care Settings

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Abstract: Developing and implementing of clinical protocols are basic in nursing for improving and maintaining quality of client care, as well as helping the community health nurse to create data based on the nurses' performance related to child health at the ambulatory health care settings.

Aim: The purpose of this study was to develop a protocol for nursing performance related to child health at ambulatory health care settings.

Study design: A cross-sectional design was used to collect data from a purposive sample of 73 nurses who are providing health care for children at 13 ambulatory health care settings in Mansoura City, convenient sample of 389 children's mothers, and 15 specialists in field of community health nursing, by using four tools: Self-administered questionnaire to assess nurses' knowledge, observation checklists to assess nurses' performance, mothers' satisfaction assessment scale, and evaluation checklist of the developed protocol.

Results: The results revealed that 55.4 % of the nurses showed average total scores level of knowledge regarding child health care. All (100.0 %) of the nurses showed improper total scores level of performance (taking and recording of child initial history, growth assessment, vital sign measurement, and immunization). While 53.8% of them showed proper total scores level of performance regarding collecting blood spots of newborn for congenital hypothyroidism screening program. In addition to generally less than three fourths (74.3%) of mothers were satisfied with the care delivered by the nurses to their children. All (100.0%) of expert evaluator were strongly agree regarding significance, the importance of the developed protocol to nursing.

Conclusion: More than half of the nurses had average total score level of knowledge regarding child health care. All of the nurses showed improper total score level of performance regarding taking and recording of child initial history, measuring vital sign, and immunization, while more than half of the nurses showed proper total score level of performance regarding collecting blood spots from newborn for congenital hypothyroidism screening program. Globally mothers were satisfied with the care delivered by the nurses to their children with the percentage of less than three fourths. Regarding the developed protocol, it was found that all of expert evaluation was strongly agree regarding significance, the importance of the developed protocol to nursing. In addition to the most of them were strongly agree regarding content is sufficient to achieve the purposes.

Keywords: Ambulatory Health Care, Developing Protocol, Child Health, Well-child visit

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I. Introduction

Ambulatory care is the new core and the growth component of healthcare right now (1). This is a specialized form of out-patient medical care delivered to the patients who don't require admission to the hospital for treatment. Ambulatory care settings are rapidly expanding and encompass a wide array of settings (2). It classified into hospitals, and community – based (3). Ambulatory care is provided in freestanding facilities, such as home health agencies, school-based health centers, community health centers, and other settings. these factors offer variety of non-acute health care services (4) including; health education, counseling, and well child care (5).The basic unit of well child care is health supervision visits (6) also known as preventive care visits (7). These visits are critical during the first five years of a child's life, which considered as a cornerstone of early childhood health as well as disease prevention and management. Well child visit, is defined by American Academy of Pediatrics as routine assessments to evaluate general health, growth, and development of children (8) Monitor the growth and development of a child, disease screenings, anticipatory guidance, and timely administration of preventive measures such as immunizations that conducted during well child visit (9, 8).Well child nurses (also called health visitors, public health nurses or maternal and child health nurses) whose clientele are families with well children aged under five years (9) .They are the most common first point of contact for all components of well-child care, they provide age-appropriate counseling on health-promotion topics (often using standardized lists of topics based on a national early childhood health record), respond to parent questions about

development and other preventive topics, and usually administer immunizations (11).

Evidence suggests that well-child care delivery system does not adequately meet clients' needs (7). Research regarding the prevalence of such care provided by primary care nurses suggests variable and often sub-optimal levels of care delivery (12). Therefore, improving and maintaining quality of client care, depends on developing and implementing of clinical protocols these protocols are basic line in health care settings (13). Focusing on specific procedure, that suggest action /steps should be adhered by health care providers to manage the common conditions (14). Protocols were identified as a key mechanism for getting research evidence into everyday practice (16). Protocols that are based on a clear and robust evidence base are more likely to impact positively on outcomes (15). In addition, enhancing multidisciplinary working, complements clinical judgment of healthcare professionals moreover enhances clinical care, assists decision making, gives structure to procedures and helps maintain continuity, reduces the time delay that would have resulted if the nurse had sought medical approval before continuing with the treatment. Benefits of protocols also includes standardizes patient care by providing consistency across all types and levels of health care provider experience (15) In addition to building up the confidence of new and inexperienced staff that may not yet have accrued the knowledge to enable them to be effective in all situations (16), as well as gives nurses more autonomy over patient decisions and care thus improves personnel morale, and increases confidence of nursing personnel (15).

II. Aim of the Study

The study aimed to develop a protocol for nursing performance related to child health at ambulatory health care settings.

III. Subjects and Methods

3.1. Study design: A cross-sectional design was used to conduct the study.

3.2. Subjects and sampling

2. The study was conducted at Mansoura City classified into West and East localities; West locality including 3 ambulatory health care settings, and East locality including 10 ambulatory health care settings.
3. Purposive sample was used to recruited all nurses on duty during the study at all (13) ambulatory health care settings who providing preventive health care for children up to five years old of age.
4. Convenient sample was used to collect 389 children's mothers receiving health care for their children

3.3. Instruments:

Data was collected using four tools: tools 1, 4, and 2 (parts A, B, G, H and I) were developed by the researcher after reviewing the relevant literatures. While tools 3 and 2 (parts C, D, E, and F) were adopted form (17 –21) respectively and modified.

1) Self-administered questionnaire to assess nurses' knowledge which covered the following parts: 1.

- a. Socio-demographic and professional characteristics of nurse's: age and gender, qualifications in nursing, occupational category, years of experience, and training courses in related fields of child health.
- b. Nurses' knowledge regarding child health care. it assesses the nurses' knowledge about: Growth assessment, immunization, anticipatory guidance, physical examination, and newborn screening for congenital hypothyroidism.

Responses of the knowledge questions were categorized as correct or incorrect. A score of 1 point was given for each correct response. The total score was 47. The knowledge level was categorized into three, and classify as the following:

1. Poor = scores less than 50% of total scores (less than 23.5 marks).
2. Average = scores 50% to less than 65% of total scores (23.5 - 30.55 marks).
3. Good = scores more than 65% of total scores (more than 30.55 marks).

2) Observation checklists to assess nurses' performance

The researcher observed the nurses during providing health care for children, it consisted of nine parts:

- A. Tasks performed by the nurse; including taking and recording the child initial history, performing of physical examination, growth assessment (weight, height / length, head circumference), measuring vital signs, giving vaccination, providing anticipatory guidance and counseling.
- B. Taking the child initial history checklist: it includes; family health and past health history, (social, nutritional, and immunizations) history, and growth and development.
- C. Vital signs measurement checklist for; body temperature, apical, and peripheral pulse, respiration, and blood pressure measurement.
- D. Growth assessment checklist: preparation for growth assessment, measuring weight, and length of child less than 24 months, measuring head circumference, and (height) of children more than 24 months.

- E. Skills observation checklist for pediatric immunization: including five subparts as following: child/ parent health education, medical protocol, vaccine handling/storage, administering Immunizations, and recording procedures.
- F. Observation checklist of children physical examination (general survey): preparation for physical examination, assessment of child general appearance, growth, vital signs, head, neck, chest, upper and lower extremities, abdomen, male and female genitalia, perennial area, and neurological assessment, and completing physical examination procedures included: discarded supplies, performed hand hygiene, removed gloves, documenting procedure and findings.
- G. Health education checklist: planning for health education session, and presentation of health education session.
- H. Counseling checklist: nonverbal communication skills, verbal communication skills.
- I. An observation checklist to assess nurse performances during collection of newborns' blood spots for screening program of congenital hypothyroidism: prepare equipment, entering information on the blood spot card, and collecting the blood spot sample after taking the blood spot sample

The Performance level was categorized into two categories:

Improper = score less than 75 % of total score

Proper = score more than 75 % of total score

3) Mothers' satisfaction assessment scale

A structured interview assessment scale to elicit mothers' satisfaction with nurses' performance related to providing health care for their children. it consists of 33 positively awarded statements grouped under eight major satisfaction domains; including knowledge and providing information, clinical skills, caring, communication, decision making, professional behavior, and global rating of respondents' overall satisfaction. Requiring a response on 5 point Likert- rating scale with 5 continuums (strongly agree, agree, disagree, strongly disagree, not sure).

4) Evaluation checklist of the developed protocol

Evaluate the developed protocol by academic experts in the field of community health nursing. This tool consists of one open-ended question, and 74 statements grouped under eight major items including; printed material: consisted of seven major items including; topic, stakeholder involvement and target group, rigor of development, purposes (objectives) and contents, literary presentation, illustrations, legibility and printing characteristics, and quality of used media. Requiring a response on 4 point Likert- rating scale with 4 continuums (strongly agree, agree, disagree, strongly disagree).

A scoring system was used to quantify the experts' evaluation the developed protocol; four marks were given to strongly agree, 3 marks to agree, 2 marks to disagree and 1 mark to strongly disagree.

3.4 Data collection

The study was conducted during a period of six months from the beginning of July 2015 till the end of December 2015.

- Assessing nurses' knowledge: self-administered questionnaire was used to elicit nurses' knowledge about child health care, each questionnaire took 15 – 20 minutes to be answered and then it had been collected by the researcher.
- The researcher was filling out the observational checklists through direct observation to appraise the nurses' performance during providing health care for children, without any instruction from the researcher to them.
- The researcher interviewed the children's mothers to assess their satisfaction with the nurses' performance; the interview lasts nearly 30 - 35 minutes in order to fill the scale.

3.5 Developing protocol

The researcher followed the Modernization Agency (MA)/ National Institute for Clinical Excellence (NICE), (2002) guidance (23) that contains key steps for developing protocols:

Step one: Selecting the protocol topic

The topic to be covered by the protocol was selected through; reviewing of the national standards of child care "standards of practice for integrated maternal and child health and reproductive health services" [24] that provide a detailed guidance, based on research evidence about the processes of child care that need to be in place at a local level in order to deliver and achieve best practice. In addition to the protocol topic was a point of care for large numbers of children who require the same preventive child health care, that provided by nurses during well child visit, this determine the context / type of this protocol which is care-based protocol.

Step two: Set-up a team

Multidisciplinary team made up of clinical and non-clinical staff who are responsible for the hands-on delivery of care are central to the successful development and use of protocols. The actual team members involved in the protocol development were consisted of the researcher, two associated professors of community health nursing, in addition to 15 experts in community health nursing who reviewed the developed protocol.

Step three: Involve patients and users in protocol development

The involvement of children mothers who are the service users was an essential part of the process of developing the protocol, the researcher assessed the satisfaction of children's mothers with the care provided by the nurses to their children, and based on the analysis of their feedback –both positive and negative the protocol was developed.

Step four: Agree objectives

- Overall aim of this protocol
Nurses will have been expanded their knowledge and skills regarding health care for children up to five years of age that conducted during well child visit.
- Specific objectives of the developed protocol
 - a. The developed protocol provides guide for nurses about well-child visit practice at ambulatory health care settings (well child / immunization clinic).
 - b. The well child visit practice guide / protocol clearly demonstrates the detailed description of steps / instructions of the procedures that conducted by the nurse for children up to five years of age.

Step five: Build awareness and commitment

Brief description of the benefits and aim of the developed protocol were done by the researcher for the chief managers, and nursing directors of each ambulatory health care setting to gain their commitment and to raise awareness of the benefits of protocol-based care. In addition to using (NICE) guidance requirements as the basis for protocol development.

Step six: Gathering information

The researcher sought on the information from the following sources to evaluate nurses performance.

- The researcher conducted advance search of the relevant studies on local, regional, and global references including; bright futures guidelines for health supervision of infants, children, and adolescents, 2008. Egyptian universities libraries, regional electronic web sites, global electronic web sites; include pub med Cochrane, and Medline, in order to build evidence based required to achieve good care, review preventive child health care services that provided for children less than five years of age during well child visit. Also, the researcher considers the views of children mother's and service users through reviewing of the national surveys.
- Review of the national standard of child care "standards of practice for integrated maternal and child health and reproductive health services" .This standard was used as a framework guide to develop the protocol by identify the standard procedures provided by nurses to children at ambulatory health care setting.
- Assessment of the current nurse's performance during providing child health care at the ambulatory health care settings.

Step seven: baseline assessment

- Based on the analysis of the baseline of the current nurses' performance the shortcomings and proper nurses' performance were highlighted.

Step eight: produce the protocol

The development team performed the following:

- Review and confirm the protocol objectives before starting the creation of the protocol document.
- Agreed an appropriate protocol format to ensure that it is easy to use
- Content of the clinical nursing protocol include two parts

Part I: Standard procedures provided by the nurse at well child visit

- a. At initial visit: take and record these data in the child growth record: the health history, growth assessment (weight, and length), check for general condition and obvious congenital anomalies, and perform screening for congenital hypothyroidism (newborn blood spot sampling).
- b. In periodic follow up visits (routine visit): nurses would perform the following tasks during routine well child visits that recommended at (2, 4, 6, 9, 12, 18, 24, 36, 48, 60) months of the child age.
 - Update basic child medical data including; weight, length / height, breastfeeding / weaning / nutrition

- Draw the growth chart including plot weight-for-age on weight-for-age charts, and Plot length / height- for-age
- Immunization for children
- Post-service counseling of children's mothers

Part II: Well child visit practice guide for nurses

Well child visit practice guide for nurses contain a theoretical (overview) and practical detailed descriptions (step by step) of the standard procedures that, performed by the nurse at initial and routine well child visit; including take and record the child personal data, health history, and reason of visit data in the child growth record, growth assessment, draw the growth chart, check for general condition and obvious congenital anomalies, screening for congenital hypothyroidism (Newborn blood spot sampling), and providing immunization services for children.

Evaluation of the developed protocol for validation

The developed protocol was circulated to 15 academic experts in the field of community health nursing to evaluate the content validity and format. All instructions and comments from the expertise were documented and considered in the formulation of the final protocol and feedback from their revision was used to modify it.

3.6. Ethical Consideration

- Ethical approval was obtained from the Research Ethics Committee of Faculty of Nursing, Mansoura University.
- An oral approval was obtained from the participants, before beginning of the study. The researcher introduced herself and a simple explanation about the aim of the study was given to them.
- Participants were assured that their participation in the study was voluntary and that collected data would be treated confidentially and would be only used for the purpose of the study.
- Participants were informed that they had the right to withdraw at any time from the study.

3.7. Tools validity and reliability

- Validity was tested by submitting the tools to a jury of five experts in the fields of "community health nursing, from faculty of Nursing Mansoura University". Their recommended modifications had been done.
- Reliability of the tool was tested by using Cronbach's alpha test, the reliability analysis showed that: The Cronbach's alpha formula was 0.794 for the mothers' satisfaction assessment scale with nurses' performance related to providing health care for their children.

3.8. A pilot study was carried out on 10 % of nurses (7) and children's mother (39) selected randomly from the same settings and excluded from the main study sample, to evaluate the clarity, applicability, and reliability of the research tools and estimate the approximate time required for data collection. Accordingly, the required modifications were done. Some questions were added and others were clarified or omitted.

3.9. Statistical analysis

- Analysis of data was done using SPSS (Statistical Product and Service Solution) program version 18.
- Data were presented by using descriptive statistics in the form of frequencies and percentage.

IV. Results

Table (1) shows that all (100.0 %) the nurses were females, 42.5% of them aged between 30 - 40 years. Also, the table represents that, 97.3 % of the nurses had diploma / secondary school. In relation to years of experience, it was found that more than half (57.5%) of the nurses had 15 years or more. Regarding to previous two years training courses about child health 39.7 % of the nurses had been trained in child immunization services, 11.0 % of them attended training in newborn screening for hypothyroidism, and only 4.1 % of the nurses had been trained in growth monitoring services.

Table 1: Distribution of the nurses regarding socio-demographic and professional characteristics (n=73)

Items	No	%
Socio-demographic characteristics		
Age categories		
- 20 - < 25 years	4	5.5
- 25 - < 30 years	11	15.1
- 30 - < 40 years	31	42.5
- 40 years or more	27	37.0
Gender		
Female	73	100.0

Education		
- Diplom / Secondary school	68	93.2
- Technical	5	6.8
Professional characteristics of nurses		
Qualification		
- Nursing professional	71	97.3
- Midwifery professional	2	2.7
Years of experience		
- < 5 years	1	1.4
- 5-<10 years	12	16.4
- 10-<15 years	18	24.7
- 15 years or more	42	57.5
Training courses about child health two years ago		
- Child immunization services	29	39.7
- Growth monitoring services	3	4.1
- Newborn screening for hypothyroidism	8	11.0

Table (2) presents the distribution of nurses' scores level of knowledge regarding child health care. It was observed that 65.8 % of the nurses showed poor scores level of knowledge related to growth assessment, while only 16.4 % of the nurses showed good scores level of knowledge about immunization. In addition to less than half (43.8 %) of the nurses showed proper score level of knowledge about anticipatory guidance. While only 23.3 % of the nurse showed good scores level of knowledge about physical examination. In addition, 47.9% of the nurses showed average scores level of knowledge about collecting blood spots of newborn for congenital hypothyroidism screening program. More than half (55.4 %) of the nurses showed average total scores level of knowledge.

Table 2: Distribution of nurses' scores level of knowledge regarding child health care (n=73)

Items	Poor		Average		Good	
	No	%	No	%	No	%
Growth assessment	48	65.8 %	13	17.8 %	12	16.4 %
Immunization	18	24.7 %	43	58.9 %	12	16.4 %
Anticipatory guidance	24	32.9 %	17	23.3 %	32	43.8 %
Physical examination	56	76.7 %	0	0 %	17	23.3 %
Collecting blood spots of newborn for congenital hypothyroidism screening program	23	31.5%	35	47.9%	15	20.5%
Total knowledge score	28	37.8%	41	55.4 %	4	5.4 %

Table (3) reveals that all (100.0 %) of the nurses had improper scores level of performance regarding taking and recording of child initial history (family, social, and natal history). Table reveals that 69.2 % of the nurses had improper scores level of performance regarding measuring vital signs (body temperature). While all (100.0 %) of the nurses showed improper total scores level of performance regarding the previous mentioned items.

Table 3: Distribution of nurses' scores level of performance regarding child initial history and vital signs (n=14)

Items	Number of observed nurses performing the task	
	No	%
Nurses' performance regarding taking and recording child initial history (family, social, and natal history)		
Proper	0	0 %
Improper	14	100.0
Nurses' performance regarding measuring vital signs		
- Body temperature		
Proper	4	30.8
Improper	10	69.2
Nurses total scores level of performance		
Proper	0	0 %
Improper	14	100.0

Table (4) illustrates that all (100.0%) of the nurses showed improper scores level of performance regarding child / parent health education about immunization, and following medical protocols techniques. Concerning vaccine handling/storage only 21.7% of the nurses showed proper scores level of performance,

while 95.7% of the nurses showed improper scores level of immunization administration for children, and procedures recording performance. In addition, all (100.0%) of the nurses showed improper total scores level of immunization performance.

Table 4: Distribution of nurses' scores level of performance regarding immunization (n=46)

Items	Number of observed nurses performing the task	
	No	%
Nurses' performance regarding immunization		
Child/ parent health education about immunization		
Proper	0	0 %
Improper	46	100.0
Following medical protocols techniques		
Proper	0	0 %
Improper	46	100.0
Vaccine handling/storage		
Proper	10	21.7%
Improper	36	78.3%
Immunization administration for children, and procedures recording		
Proper	2	4.3%
Improper	44	95.7%
Nurses total scores level of performance		
Proper	0	0 %
Improper	46	100.0

Table (5) reveals that all (100.0%) of the nurses showed proper scores level of performance regarding preparing equipment, and recording information on the blood spot card but they showed improper scores level of performance related to collecting the blood spots sample. It was observed that 53.8 % of the nurses showed proper scores level in relation to their actions after taking blood spots sample and proper total scores level of performance regarding all the previous items.

Table 5: Distribution of nurse's performance regarding collecting blood spots from newborn for congenital hypothyroidism screening program (n=13)

Items	Numbers of observed nurses performing the task	
	No	%
Nurses' performance regarding collecting blood spots from newborn for congenital hypothyroidism screening program		
Prepare equipment		
Proper	13	100.0
Improper	0	0 %
Recording information on the blood spot card		
Proper	13	100.0
Improper	0	0 %
Collecting the blood spots sample		
Proper	0	0 %
Improper	13	100.0 %
Nurses actions after taking the blood spots sample		
Proper	7	53.8 %
Improper	6	46.2 %
Nurses total scores level of performance		
Proper	7	53.8 %
Improper	6	46.2 %

Table 6 showed that the majority (86.4 %) of mothers were agree with nurses' knowledge, less than two thirds (63.8%) of them were agree that nurses provided clear and complete information about their children condition. While 52.2% of mothers were disagree with nurses' instructions. As regard to nurses' ability to provide clinical skills; less than two thirds (64.9%) of mothers were disagree about checking their children and keeping them track of how they were doing, and less than three fourths (74.8%) of them were agree with the

nurses' manner of delivering care. While more than one third (33.7%) of mothers were disagree for safety given when delivering care. In addition, 71.7% of mothers were disagree about nurses' hand washing performance before and after the procedure. As regards to nurses' care, more than half (52.7%) of the mothers were disagree about considering their opinion in planning and implementing the care.

Table 6: Distribution of mother's satisfaction regarding children health care nurses' performance (n=389)

Items	No = 389		No = 389		No = 389		No = 389		No = 389	
	Agree		Strongly agree		Disagree		Strongly disagree		Not sure	
	No.	%	No.	%	No.	%	No.	%	No.	%
Nurses' ability to provide information										
- Knowledgeable in her field	336	86.4	8	2.1	41	10.5	1	.3	3	.8
- Provided mothers clear information about children condition	248	63.8	1	.3	127	32.6	8	2.1	5	1.3
- Provided mothers complete information about the child condition	248	63.8	1	.3	127	32.6	8	2.1	5	1.3
- Addressed mothers questions/concerns satisfactorily	292	75.1	26	6.7	62	15.9	9	2.3		
- Provided mothers with clear health education related to the child condition	284	73.0	4	1.0	95	24.4	6	1.5		
- Provided mothers with adequate needed instructions	160	41.1	4	1.0	203	52.2	4	1.0	1	.3
Nurses' ability to provide clinical skills										
- She is confident when performing clinical skills.	303	77.9	23	5.9	56	14.4	2	.5	5	1.3
- Able to coordinate care effectively with other healthcare team members	218	56.0	12	3.1	38	9.8	2	.5	118	30.3
- Checked the child and kept track of how he/she was doing	92	23.7	1	.3	252	64.9	42	10.8	1	.3
- Delivered care in an organized manner	291	74.8	10	2.6	78	20.1	3	.8	7	1.8
- Performed hand washing before and after performing a procedure.	11	2.8			279	71.7	29	7.5	70	18.0
- Observed for safety when delivering care	196	50.4			131	33.7	9	2.3	53	13.6
Nurses' caring										
- She is available when needed	322	83.6	16	4.2	42	10.9	2	.5	3	.8
- Given enough time for mothers	223	57.3	2	0.5	141	36.2	21	5.4	2	.5
- Considered mothers opinion in planning and implementing the care.	79	20.3	3	0.8	205	52.7	101	26.0	1	.3
- Reassured and comforted mothers when needed	307	78.9			72	18.5	10	2.6		
- Maintained a quiet environment	176	45.2			147	37.8	66	17.0		
- She is approachable	340	87.4			30	7.7	18	4.6	1	.3

Table 7 illustrated that 91%, 95.1 % of mothers were agree that nurses treating them / their children with dignity and respect, and maintained their children confidentiality respectively. Generally, 74.3% of mothers were agree with the care delivered by the nurses to their children

Table 7: Distribution of mothers' satisfaction regarding nurses' communication, and nurses' ability to provide professional behavior

Items	No = 389		No = 389		No = 389		No = 389		No = 389	
	Agree		Strongly agree		Disagree		Strongly disagree		Not sure	
	No.	%	No.	%	No.	%	No.	%	No.	%
Nurses' communication										
- Communicated with clear language.	355	91.3	1	.3	29	7.5	3	.8	1	.3
- Communicated with understandable language	355	91.3	1	.3	29	7.5	3	.8	1	.3
- Listened to mothers complaints.	310	79.7	27	6.9	44	11.3	6	1.5	2	.5
- Respected mother's religion and culture.	370	95.1	10	2.6	7	1.8	1	.3	1	.3
- Appeared confident in taking decision regarding the child care.	342	87.9	15	3.9	28	7.2			4	1.0
- Notified appropriate team members when the child condition changed.	243	62.5	14	3.6	49	12.6	2	.5	81	20.8
- Encouraged mothers to participate in the care whenever possible.	220	56.6	4	1.0	141	36.2	22	5.7	2	.5
- Respected mother's decision regarding the extent of involvement in my child care.	250	64.3	9	2.3	128	32.9	2	.5		
- Treated mothers / child with dignity and respect	354	91.0	21	5.4	11	2.8	2	.5	1	.3
- Acted professionally with patients, families and other healthcare team members	361	92.8	3	.8	12	3.1	2	.5	11	2.8
- Dressed appropriately and professionally	339	87.1	11	2.8	29	7.5	6	1.5	4	1.0
- Maintained the child privacy.	271	69.7	6	1.5	97	24.9	15	3.9		
- Maintained the child confidentiality all the time.	369	95.1	1	.3	9	2.3	6	1.5	3	.8
- Generally, mothers satisfied with the care delivered by the nurses	289	74.3	5	1.3	82	21.1	10	2.6	3	.8

- **Regarding experts' evaluation of the developed protocol** the results of the current study revealed that all (100.0%) of experts' evaluation was strongly agree regarding significance, and the importance of the protocol to nursing. While 66.7%, 60.0% of them were agree regarding target group were clearly specified, the end beneficiaries of the protocol are clearly defined respectively. In relation to the protocol purposes (objectives) and contents 93.3% of experts' evaluation was strongly agree regarding content is sufficient to achieve the purposes.

V. Discussion

The results of the current study revealed that almost two thirds and more than three fourths of the nurses had poor score level of knowledge about growth assessment, and physical examination respectively. In addition to more than half of the studied nurses showed average total score level of knowledge regarding child health. These results were congruent with other study that conducted in Canada (24), revealed that mothers' perceptions as reported by mothers the community health nurse should be with sound knowledge base and up – to date knowledge. From the researcher point of view these results may explain that the nurses did not receive on job courses concerning child health.

The present study revealed that all of the nurses had improper total scores level of performance regarding taking and recording of child initial history, measuring vital signs, and growth assessment. This was consistence with the studies that conducted at Egypt, Zambia, Tanzania, and Belgium (25-28) revealed that all of the nurses had incompetent level of practice regarding measurement of vital signs, health care providers were demonstrated poor practices regarding growth monitoring, and inaccurate plotting, and understanding reference curves.

The current study showed that most of the nurses and all of them showed improper scores level of performance about administered of immunization for children, and procedures recording, and child / parent health education about immunization. These results were in line with the study that conducted in Egypt (30) which found that more than half of nurses had unsatisfactory practice regarding health education. While was disagreed with the study that conducted in England (14), which revealed that the minority of nurses gave health education program for families about disease prevention. The researcher explains these results, health education was provided to the mothers by social services specialist. Also, as reported by the nurses; only a few numbers of nurses were provided health education and counseling for children mothers, because of description of job are not clear. The present study illustrated that all of the nurses showed improper scores level of performance about collecting the blood spot sample. This was in agreement with the study conducted in Egypt (30) revealed that, washing hands before every sampling was not done in 100% of observed nurses. In addition to the use of gloves during sampling was used in only 58.2% of observed nurses and it was changed with every sample in 27.2% of observed nurses. Furthermore, these parts of results of the current study may explain the other part of the results that showed dissatisfaction of less than two thirds of children's mothers about the nurses' ability to check their child and keeping them track of how he/she was doing. From the researcher point of view pore nurses' knowledge affected on their performance.

Regarding the developed protocol the results of the present study found that all of expert evaluator were strongly agreed regarding significance, the importance of the developed protocol to nursing. This opinion goes in the same line with the study conducted in England (14) which mentioned that care protocols have the potential to enhance care provision by providing clear guidance based on the current best evidence related to specific aspects of care. As well, other study conducted in United States of America (31) which found that improving and maintaining quality of client care depends on developing and implementing of clinical protocols these protocols are basic in nursing and important in health care settings.

VI. Conclusion and Recommendations

The study concluded that; more than half of the nurses had average total scores level of knowledge regarding child health care. All of the nurses showed improper total scores level of performance regarding taking and recording of child initial history, measuring vital sign, and immunization, while more than half on the nurses showed proper total scores level of performance regarding collecting blood spots from newborn for congenital hypothyroidism screening program. Globally mothers were satisfied with the care delivered by the nurses to their children with the percentage of less than three fourths. Regarding the developed protocol, it was found that all of experts evaluation was strongly agreed regarding significance, the importance of the developed protocol to nursing. In addition to the most of them were strongly agreed that content is sufficient to achieve the purposes, their opinions were considered and the required modifications were performed. The current study recommended to apply the developed protocol at ambulatory health care settings that can improve the nurses' knowledge and performance regarding child health care.

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