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ORIGINAL RESEARCH

# Outcomes of Planned Home Visits of Intern Public Health Nurses: An Example from Turkey

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**Abstract**

**OBJECTIVE** This study aimed at evaluating the outcomes of planned home visits of intern public health nurses enrolled to a school of health over 8 educational years.

**METHOD** The descriptive research consisted of 181 families (N = 745 individuals) who received primary services through the planned home visits undertaken by 431 intern public health nurses at Kocaeli province in Turkey. The data were collected from Family Nursing Process Records and Family Health Achievement Forms. Both of these data collection forms were classified according to North American Nursing Diagnosis Association (NANDA) Taxonomy II.

**RESULTS** Intern public health nurses provided primary health services to 181 families (N = 745 persons) with a total of 8771 planned home visits undertaken over 802 days and 14.874 student/practice days. A total of 1539 nursing diagnoses were identified and 1677 achievements about these diagnoses were reported. Nursing diagnosis per family and per individual turned out to be 8.50 and 2.1, respectively, and achievements were 9.3 per family and 2.3 per individual. Among the nursing diagnosis domains, health promotion (20.3%), safety/protection (16.8%), and activity/rest (16.0%) were the top 3 domains identified. The most common diagnoses turned out to be ineffective health maintenance (47.4%) in health promotion domain and risk for trauma (18.2%) in safety/protection domain. The achievements were reported most in health promotion (37.9%), activity/rest (17.6%), and safety/protection (9.6%), respectively.

**CONCLUSIONS** Planned and continuous home visits by intern public health nurses resulted in positive health achievements in families, especially for women and children.

**KEY WORDS** home visit, intern nurse, nursing diagnosis, primary health service, public health nursing

## INTRODUCTION

Home visits are planned and targeted activities aimed at health promotion and health maintenance of individuals, as well as prevention of illness and other health problems, and are regarded as one of the important tools of maintaining primary health services.[1,2] Randomized controlled studies on impacts of home visits revealed that women developed positive health behavior and experienced healthier pregnancies,[3,4] maternal mortality related to preventable causes declined considerably,[5] and communication between mother and child significantly improved.[6,7] Moreover, the studies found

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that fathers' participation in child care was enhanced[8] and labor force participation of mothers increased.[3,8] Also reported were better nutrition of infants with breastfeeding[9,10]; increases in fetal weight and growth and development of children; and declines in behavioral problems in childhood, deceit, and abuse,[3,8,11] as well as injuries, application to emergency services, and hospitalization.[3] One systematic review identified the relationship between home visits and improvements in quality of home environment.[12] All such positive results were reported more for women in low-income families and less developed countries or regions.[3,4,7]

The role of public health nurses is crucial in achievement of positive outcomes as they undertake several functions such as care, advocacy, case management, cooperation, consultancy, health education, and so on.[2,13] The undergraduate education of nursing students appears as one of the most important factors affecting sufficient fulfillment of these functions. Despite the limited amount of research, available results revealed that nursing students attributed positive meanings to home visits.[14,15] However, there is no academic research available on Turkey evaluating both the home visit activity of nurses, as in the case of other developing countries,[9] and longer-term results of home visits by intern public health nurses during practice training. The present study aimed at evaluating the outcomes of planned and continuous home visits, namely the nursing diagnosis and achievements as a result of related interventions, undertaken by intern public health nurses enrolled in a school of health over 8 educational years.

## METHODS

The study was designed as a descriptive research. The sample consisted of 181 families (N = 745 persons) who received primary health services through the planned home visits undertaken by 431 intern public health nurses enrolled in the fourth grade of the Kocaeli School of Health (KSH) in Turkey. Intern public health nurses are 4$^{th}$ year undergraduate nursing students who successfully completed the 3$^{rd}$ year courses and are obliged to undertake eight hours of public health nursing practice in a month as a part of their intern nursing practice course. Planned home visits constitute an essential component of their public health nursing practice.

The practice training was carried out at a small industrial estate since 2001 known as the top migrant-receiving region of the central district (Izmit) of Kocaeli province populated with families of low socioeconomic status. The course contents of the integrated nursing curriculum of KSH were structured on Gordon's functional health patterns. Course topics were taught in line with nursing diagnoses of North American Nursing Diagnosis Association (NANDA).[16] Thus NANDA nursing diagnoses are used in all practice trainings in all grade levels.

The intern practice training for fall (September—January) and spring (February—June) semesters was organized within an educational period in groups and covered a total of 14 days, during which practice alternated between 3 days a week and 4 days a week consecutively. The training was supervised by the same instructor over the 8 educational years along the guidelines provided. Each intern public health nurse was held responsible for nursing care for 3 families and was obliged to conduct at least 2 home visits per week. Respecting the continuity of care, the same families were visited with different groups of intern public health nurses in the following periods unless families declined to participate, moved away, went on vacation, or were hospitalized.

The Family Nursing Process Record included nursing diagnosis, aims and objectives, nursing interventions, and evaluations of each family along with the number of home visits, classification of home visits, descriptive characteristics of families, and nursing diagnoses. The Family Health Achievement Form evaluated the outcomes of the home visits. Achievement was defined on the basis of health-related positive information, skills, behavior, and attitudes of the families and family members aimed at by the nursing interventions designed as a result of the nursing diagnosis. The resulting outcomes in this form were the ultimate decisions recorded by the intern public health nurses but also evaluated and confirmed by the supervising instructor at the end of the practice training per family and per family member.

Data were analyzed by using percentages and arithmetic means. Both nursing diagnoses and achievements were classified according to NANDA Taxonomy II. Fifteen families were excluded because of either unavailability of their journals or missing data in the records.

## RESULTS

The practice training of 431 intern public health nurses over 8 educational years provided public health nursing service to 181 families (N = 745 persons). One-fifth of the families had more than 6 members and almost half of the families (53%)

had migrated from another province. Though majority of the families (94.4%) had social security coverage, 70.1% of the families had low levels of monthly income. Half of the mothers and fathers in the families were primary school graduates (Table 1). The majority of the mothers were housewives (92.6%) and fathers were casual workers (86.8%). The average age of mothers and fathers was 41.02 ± 15.27 years and 42.57 ± 12.59 years, respectively. The families consisted of women in the 15-49 age group (43%), children younger than 5 years of age (27.7%), and infants (14%). More than half of these families (64.1%) and one-quarter of the individuals had had at least 1 medical diagnosis where more than half (56.7%) constituted 2 or more diagnosis (Table 1). The most prevalent medical diagnoses were hypertension (18.9%), asthma (10.6%), diabetes mellitus and hypertension (12.7%), asthma (10.8%), coronary artery diseases (6.7%), and depression (6.1%) (Table 1).

Intern public health nurses services over 802 days and a total of 8,771 planned home visits. In terms of practice training days per intern, the total visit days count to 14,874. The number of intern public health

**Table 1. Characteristics of Families Home Visited by Intern Public Health Nurses (n = 181 families, 745 persons)**

| Characteristics | n (%) | Characteristics | n (%) |
|---|---|---|---|
| Average age of mothers (years) | 41.02 ± 15.27 | Father's job (n = 161) | |
| Average age of fathers (years) | 42.57 ± 12.59 | Casual worker | 139 (86.3) |
| | | Unemployed | 12 (7.4) |
| | | Retired | 10 (6.3) |
| | | Mother's job | |
| | | Housewife | 167 (92.3) |
| | | Casual worker | 14 (7.7) |
| Number of persons in family | | Education status of mother | |
| 1-3 | 55 (30.4) | Not illiterate | 18 (9.9) |
| 4-5 | 894 (9.2) | Illiterate | 12 (6.6) |
| ≥6 | 37 (20.4) | Primary school graduate | 90 (49.7) |
| Family type | | Secondary school graduate | 28 (15.5) |
| Nuclear | 142 (78.5) | High school graduate | 28 (15.5) |
| Extended | 39 (21.5) | University graduate | 5 (2.8) |
| Social security coverage | | Education status of father | |
| Yes | 171 (94.4) | Illiterate | 7 (3.9) |
| No | 10 (5.6) | Primary school graduate | 93 (51.4) |
| Monthly income (New Turkish lira) | | Secondary school graduate | 35 (19.3) |
| ≤891 | 37 (20.4) | High school graduate | 38 (21.0) |
| 892-1600 | 90 (49.7) | University graduate | 8 (4.4) |
| 1601-5.000 | 54 (29.9) | The persons in family | |
| Migration | | Infant | 104 (14.0) |
| Yes | 96 (53.0) | Children (age group 1-5) | 206 (27.7) |
| No | 85 (47.0) | Women (age group 15-49) | 325 (43.0) |
| Home ownership | | Elderly (age ≥65) | 41 (5.5) |
| Owns the house | 48 (26.6) | Family with diagnosis | 116 (64.1) |
| Paying rent | 106 (58.6) | Persons with diagnosis | 181 (24.3) |
| Relative's house-no rent | 27 (14.8) | Number of diagnosis (n = 268) | |
| Type of dwelling | | 1 | 16 (43.3) |
| Apartment | 117 (64.6) | 2 | 108 (40.3) |
| Single-detached | 61 (33.7) | 3-4 | 44 (16.4) |
| Prefabricated | 3 (1.7) | Other characteristics of family members | |
| Work status of family | | Disabled | 4 (0.5) |
| Nobody | 31 (17.1) | Bed ridden | 22 (3.0) |
| One person | 131 (72.4) | The most prevalent medical diagnoses (n = 268) | |
| 2.4 people | 19 (10.5) | Hypertension | 50 (18.7) |
| | | Diabetes mellitus and hypertension | 34 (12.7) |
| | | Asthma | 29 (10.8) |
| | | Coronary artery diseases | 18 (6.7) |
| | | Depression | 15 (5.5) |

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nurses expanded over the years as a result of the increase in number of placements in nursing department since the 2006-2007 educational years. However, such increase was not fully reflected in the number of visits per student or the number of families visited. Actually, average number of visits per family were 29.2 over 8 educational years. The lowest number of follow-ups were reported in the 2006-2007 educational year ($\bar{x} = 12.7$) because of fewer students in comparative terms, whereas the highest number of follow-ups occurred in 2009-2010 educational year ($\bar{x} = 33.7$). About 39% of the families (n = 70) were monitored for more than 1 educational year (Table 2). The initial visits were conducted to 5% of the families in 2006, 5.5% of the families in 2007, 3.9% of the families in 2008, 8.8% of the families in 2009, 8.3% of the families in 2010, 30.9% of the families in 2011, 14.4% of the families in 2012, and 16.6% of the families in 2013.

The number of nursing diagnoses was 1539 with 8.50 diagnoses per family, 2.1 diagnoses per individual and 3.5 diagnoses per intern nurse. The number of the nursing diagnoses was highest for 15-49 age group women and children younger than 5 years of age because these groups constitute a majority in the sample. The domains of nursing diagnoses were health promotion (20.3%), security/protection (16.8%), activity/rest (16.0%), perception/cognition (9.6%), and other diagnosis not classified under NANDA Taxonomy II (6.1%). The highest number of diagnoses according to these domains were reported in security/protection (17), activity/rest (13), and coping/stress tolerance (10) (Tables 3-5). The most prevalent 2 nursing diagnoses were ineffective health maintenance (47.4%), ineffective health management (23.7%) in health promotion domain; risk for trauma (18.2%), risk for infection (15.9%) in safety/protection domain; bathing self-care deficit (40.1%), deprived leisure activities (16.2%) in activity/rest domain; deficient knowledge (48.3%), readiness for enhanced knowledge (26.5%) in perception/cognition domain; and caregiver role strain (27.8%). Twelve diagnoses or problems (6.1%) were not classified under NANDA Taxonomy II (Table 3).

As a result of the nursing interventions by the intern public health nurses, a total of 1677 achievements were reported across the whole sample with 9.3 achievements per family, 2.3 achievements per individual, and 3.8 achievements per intern nurse. The highest number of achievements across domains was identified in health promotion (37.9%), activity/rest (17.6%), security/protection (9.6%), growth/development (8.7%), and nutrition (8.2%). Similar to the findings in nursing diagnoses, the prevalence of the achievements was higher in the 15-49 age group of women and in children younger than age 6, because these groups constitute majority in the sample. The

**Table 2. Home Visits of Intern Public Health Nurses According to Educational Years**

| Educational Year | The Number of Interns | The Number Families | The Number of Visits | Average Number of Home Visits Per Family |
|---|---|---|---|---|
| 2006-2007 | 29 | 12 | 152 | 12.7 |
| 2007-2008 | 44 | 10 | 137 | 13.7 |
| 2008-2009 | 50 | 12 | 232 | 19.3 |
| 2009-2010 | 39 | 21 | 792 | 37.7 |
| 2010-2011 | 52 | 33 | 1114 | 33.7 |
| 2011-2012 | 66 | 72 | 2332 | 29.5 |
| 2012-2013 | 80 | 79 | 2393 | 30.3 |
| 2013-2014 | 71 | 61 | 1619 | 26.5 |
| Total | 431 | 300* | 8771 | 29.2 |
| The Initial Visits | n | % | | |
| 2006 | 9 | 5.0 | | |
| 2007 | 10 | 5.5 | | |
| 2008 | 7 | 3.9 | | |
| 2009 | 16 | 8.8 | | |
| 2010 | 15 | 8.3 | | |
| 2011 | 56 | 30.9 | | |
| 2012 | 26 | 14.4 | | |
| 2013 | 30 | 16.6 | | |
| 2014 | 12 | 6.6 | | |

* 70 families were visited in more than one educational year.

**Table 3. Diagnoses and Achievements Defined by Intern Public Health Nurses in Health Promotion, Nutrition, and Elimination/Exchange Domains**

| Diagnosis | n (%) | Achievements | n (%) |
|---|---|---|---|
| Domain 1: Health Promotion | 312 (20.3) | Domain Total | 636 (37.9) |
| Ineffective health maintenance | 148 (47.4) | Utilization of health care institutions by women | 161 (58.8) |
| | | Quitting smoking/decline in number of cigarettes smoked daily | 46 (16.8) |
| | | Maintenance of rational drug use | 23 (8.4) |
| | | Regular attendance to health controls | 11 (4.0) |
| | | Medical diagnosis | 11 (4.0) |
| | | Coverage of health insurance | 6 (2.2) |
| | | Decline in daily consumption of tea and coffee | 3 (1.1) |
| | | Prevention of unintended pregnancy | 13 (4.7) |
| | | Total | 274 (43.1) |
| Ineffective health management | 74 (23.7) | Preparation and maintenance of treatment plan | 94 (96.0) |
| | | Proper use of bodily mechanics | 4 (4.0) |
| | | Total | 98 (15.4) |
| Readiness for enhanced health management | 61 (19.6) | | |
| | | Undertaking health responsibility-fulfilment of health promoting behaviour | 79 (39.3) |
| | | Initiation and maintenance of regular physical exercise | 117 (58.2) |
| | | Identification of lump in breast | 5 (2.5) |
| | | Total | 201 (31.6) |
| Deficient home care | 18 (5.8) | Maintenance of cleanness by disinfection of the household | 3 (0.5) |
| Effective health management | 6 (1.9) | Acceptance of the children to the rehabilitation centre | 4 (80.0) |
| | | Attendance to the controls for intrauterine device | 1 (20.0) |
| | | Total | 5 (0.8) |
| Readiness for enhanced nutrition | 5 (1.6) | Compliance to diet programme | 41 (74.5) |
| | | Maintenance of proper nutrition for the age group | 8 (14.5) |
| | | Disaccustoming the use of feeding bottles | 6 (11.0) |
| | | Total | 55 (8.6) |
| Domain 2: Nutrition | 85 (5.5) | Domain Total | 138 (8.2) |
| Imbalanced nutrition—more than body requirements | 40 (47.1) | Maintenance of weight control | 37 (26.8) |
| Imbalanced nutrition—less than body requirements | 16 (18.8) | Maintenance of putting on weight | 23 (16.7) |
| Excess fluid volume | 6 (7.0) | Constrained salt intake | 10 (7.2) |
| Readiness for enhanced fluid balance | 6 (7.0) | Enhanced fluid intake | 60 (43.8) |
| Risk for overweight | 6 (7.0) | | |
| Deficient fluid volume | 3 (3.6) | | |
| Risk for imbalanced fluid volume | 6 (7.0) | Reduction in edema | 5 (3.6) |
| Impaired swallowing | 2 (2.5) | Elimination of swallowing impairment | 3 (1.9) |
| Domain 3: Elimination/Exchange | 67 (4.4) | Domain Total | 21 (1.2) |
| Constipation | 25 (37.3) | Maintenance of urinary elimination | 10 (47.6) |
| Risk for constipation | 16 (23.9) | | |
| Bowel incontinence | 3 (4.5) | | |
| Diarrhea | 7 (10.4) | | |
| Stress urinary incontinence | 7 (10.4) | | |
| Impaired urinary elimination | 3 (4.5) | | |
| Functional urinary incontinence | 4 (5.9) | Moderation in incontinence | 2 (9.5) |
| | | Learning Kegel exercise | 9 (42.9) |
| Urinary incontinence | 2 (3.1) | | |

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**Table 4. Diagnoses and Achievements Defined by Intern Public Health Nurses in Activity/Rest, Perception/Cognition, Self-perception, Role Relationships, and Sexuality Domains**

| Diagnosis | n (%) | Achievements | n (%) |
|---|---|---|---|
| Domain 4: Activity/Rest | 247 (16.0) | Domain Total | 295 (17.6) |
| Sleep deprivation | 1 (0.4) | | |
| Activity/exercise | | | |
| Deprived leisure activities | 40 (16.2) | Decline in TV watching period | 20 (7.1) |
| | | Organizing appropriate entertainment activity | 16 (5.7) |
| Impaired physical mobility | 26 (10.5) | Increase in physical activities | 6 (2.1) |
| | | Increase in muscle power | 14 (5.0) |
| | | Regular practice of rom exercises | 21 (7.4) |
| Bathing self-care deficit | 99 (40.1) | Achievement of tooth brushing habit | 119 (42.2) |
| | | Hygienic implementations | 21 (7.4) |
| | | Individual participation to self-care practices | 20 (7.1) |
| | | Regular implementation of skin-feet and nail care practices | 37 (13.1) |
| Feeding self-care deficit | 1 (0.4) | | |
| Toileting self-care deficit | 3 (1.2) | Fulfilment of extraction on one's own | 1 (0.4) |
| Impaired walking | 7 (2.8) | Provision of prosthesis and other tools | |
| Impaired bed mobility | 3 (1.2) | Practicing active/passive exercises | 3 (1.1) |
| | | Total | 282 (95.6) |
| Energy balance: Fatigue | 12 (5.0) | | |
| Cardiovascular/pulmonary responses | | | |
| Ineffective breathing pattern | 16 (6.5) | Implementation of bronchoscopy | 1 (20.0) |
| Ineffective tissue perfusion | 7 (2.8) | Use of compression socks | 4 (80.0) |
| Activity intolerance | 7 (2.8) | | |
| Risk for activity intolerance | 1 (0.4) | | |
| | | Total | 5 (1.7) |
| Domain 5: Perception/Cognition | 147 (9.6) | Domain Total | 90 (5.3) |
| Sensation/perception: Impaired emotional perception | 2 (1.4) | Use of accessories such as glasses, etc. | 10 (11.1) |
| Cognition | | | |
| Deficient knowledge | 71 (48.3) | Achievement of knowledge | 56 (62.2) |
| Readiness for enhanced knowledge | 39 (26.5) | | |
| Impaired memory | 8 (5.4) | | |
| Acute confusion | 8 (5.4) | | |
| Communication: Impaired verbal communication | | Enhancement of individual communication skills | 24 (26.7) |
| Domain 6: Self-Perception | 30 (1.9) | Domain Total | 7 (0.4) |
| Self-concept | | | |
| Risk of loneliness | 6 (20.0) | Participation to social activities | 4 (57.1) |
| Weakness | 5 (16.7) | | |
| Hopelessness | 4 (13.3) | | |
| Disturbed personal identity | 1 (3.3) | ID card registration | 3 (42.9) |
| Self-esteem: Situational low self-esteem | 9 (30.0) | | |
| Body image: Disturbed body image | 5 (16.7) | | |
| Domain 7: Role Relationships | 90 (5.8) | Domain Total | 38 (2.2) |
| Caregiving roles | | | |
| Caregiving role strain | 25 (27.8) | Provision of support for care | 71 (8.4) |
| Impaired parenting | 12 (13.3) | Provision of care | 4 (10.5) |
| Readiness for enhanced parenting | 4 (4.4) | | |

(*continued on next page*)

**Table 4. continued**

| Diagnosis | n (%) | Achievements | n (%) |
|---|---|---|---|
| Family relationships | | | |
| Interrupted family processes | 25 (27.8) | Enhancement of intra-familial relationships | 8 (21.1) |
| Risk for impaired attachment | 4 (4.4) | | |
| Role performance | | | |
| Ineffective breastfeeding | 4 (4.4) | Identification and elimination of fracture on nipple | 6 (15.8) |
| Effective breastfeeding | 1 (1.1) | Disaccustoming the child from breastfeeding | 13 (34.2) |
| Impaired social interaction | 15 (16.8) | | |
| Domain 8: Sexuality | 4 (0.3) | Domain Total | 4 (0.2) |
| Sexual identity /sexual function: Ineffective sexuality pattern | 4 (100.0) | | |

most prevalent achievements per domains were identified as autonomous acknowledgement and proper use of institutions providing health care by women (58.8%) when diagnosed as insufficient health maintenance, initiation and maintenance of regular exercise (58.2%) when diagnosed as readiness for enhanced health management, and preparation and maintenance of treatment plan when diagnosed as ineffective health management in the health promotion domain; achievement of tooth-brushing habit (42.2%) when diagnosed with bathing self-care deficit, and autonomous practice of range-of-motion exercises (7.4%) when diagnosed with impaired physical activity in the activity/rest domain; nonoccurrence of home accidents and other traumas at home (46.8%) by physical rearrangements within the household when diagnosed with risk of injury especially for women and children, and achievement of oral care habit (21.7%) when diagnosed with impaired oral mucous membrane and prevention of impairment of skin integrity (11.8%) when diagnosed as such in the safety/protection domain; support for development processes of children (70%) when diagnosed with risk for delayed development in the growth/development domain; increases in fluid intake (43.8%) when diagnosed with readiness for enhanced fluid balance, maintenance of weight control (26.8%) when diagnosed with risk for overweight, and maintenance of putting on weight (16.7%) when diagnosed with imbalanced nutrition—less than body requirements in the nutrition domain.

## DISCUSSION

Similar to the findings of other studies in Turkey, this study found that the majority of the families that received services during the public health practice training of nursing students were poor, overcrowded, and migrant households from lower socioeconomic strata with low levels of education as well as incomes, with housewife mothers and casual worker fathers, where health status was also poor; more than half of families and almost one-fifth of the individuals in those families were diagnosed with chronic illness.[17-22] Such vulnerable families inherently experience problems in accessing health care and thus have potentially worse health outcomes. In this respect, these families ultimately need both the home visits of the public health nurses and accompanying primary health services.[21,23] The average home visit number of the intern public health nurses per family in uninterrupted 2-year- and 2-month-long practice training over 8 educational years turned out to be 29.2. This figure was significantly higher than the average follow-ups via home visits targeting pregnant women and women in the postpartum period as well as children undertaken since 2002.[24] On the one hand, this result enabled families and individuals to benefit from a privileged nursing care service in their own surroundings provided through organized home visits. On the other hand, this experience enabled intern public health nurses to learn the roles of the public health nurse.[23]

The number of nursing diagnoses as well as per-family and per-individual averages in our research were reported higher than the results of 2 research studies undertaken on this subject covering only 1 educational year.[17,18,25] This difference could be explained by either nonuse of nursing diagnosis systems in some nursing departments in Turkey, use of different diagnosis systems when utilized, or the

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**Table 5. Diagnoses and Achievements Defined by Intern Public Health Nurses in Coping/Stress Tolerance, Life Principles, Security/Protection, Comfort, Growth/Development, and Other Domains**

| Diagnosis | n (%) | Achievements | n (%) |
|---|---|---|---|
| Domain 9: Coping/Stress Tolerance | 63 (4.1) | Domain Total | 16 (0.9) |
| Post-trauma response: Relocation stress syndrome | 1 (1.6) | | |
| Coping responses | 31 (49.2) | | |
| Ineffective coping | | Prevention of nail-biting | 8 (50.0) |
| | | Prevention of absenteeism | 6 (37.5) |
| | | Career planning/choice of professions | 2 (12.5) |
| Anxiety | 12 (19.0) | | |
| Fear | 10 (15.9) | | |
| Disabled family coping | 2 (3.1) | | |
| Death anxiety | 1 (1.6) | | |
| Grieving | 1 (1.6) | | |
| Chronic sorrow | 3 (4.8) | | |
| Ineffective denial | 1 (1.6) | | |
| Impaired resilience | 1 (1.6) | | |
| Domain 10: Life Principles | 10 (0.6) | | |
| Value/belief/action congruence | | | |
| Impaired emancipated decision-making | 7 (70.0) | | |
| Decisional conflict | 2 (20.0) | | |
| Spiritual distress | 1 (10.0) | | |
| Domain 11: Security/Protection | 258 (16.8) | Domain Total | 161 (9.6) |
| Infection: Risk for infection | 41 (15.9) | Vaccination | 2 (1.2) |
| Physical injury | | | |
| Risk for trauma | 47 (18.2) | Nonexistence of home accidents and other traumas at home | 76 (46.8) |
| Risk for impaired skin integrity | 41 (15.9) | Initiating regular massage implementation | 8 (5.0) |
| Ineffective airway clearance | 26 (10.1) | Undertaking breathing exercises | 7 (4.3) |
| Risk for falls | 22 (8.5) | | |
| Impaired oral mucous membrane | 22 (8.5) | Achievement of oral care habit | 35 (21.7) |
| Impaired skin integrity | 17 (6.6) | Prevention of impairment of skin integrity | 19 (11.8) |
| | | Identification of diaper rash | 6 (3.7) |
| | | Prevention of risk for aspiration | 5 (3.1) |
| Risk for aspiration | 8 (3.1) | | |
| Impaired tissue integrity | 3 (1.2) | | |
| Impaired dentition | 3 (1.2) | | |
| Risk for suffocation | 3 (1.2) | | |
| Risk for injury | 4 (1.5) | | |
| Violence | | | |
| Risk for other-directed violence | 7 (2.7) | | |
| Risk for suicide | 4 (1.5) | | |
| Risk for self-mutilation | 2 (0.8) | | |
| Environmental Hazards: Risk for poisoning | 6 (2.3) | | |
| Thermoregulation : Ineffective thermoregulation | 2 (0.8) | Regular implementation of hot pressure | 3 (1.9) |
| Domain 12: Comfort | 57 (3.7) | Domain Total | 4 (0.2) |
| Physical Comfort | | | |
| Acute pain | 41 (72.0) | Decline in levels of pain | 3 (75.0) |
| Chronic pain | 8 (14.0) | Controlling pain | 1 (25.0) |
| Nausea | 1 (1.8) | | |
| Social Comfort: Social isolation | 7 (12.2) | | |

(*continued on next page*)

**Table 5. continued**

| Diagnosis | n (%) | Achievements | n (%) |
|---|---|---|---|
| Domain 13: Growth/Development | 75 (4.9) | Domain Total | 147 (8.7) |
| Growth | | | |
| Risk for delayed growth and development | 60 (80.0) | Enhancement of small motor skills | 22 (15.0) |
| | | Determination of delays in growth | 1 (0.7) |
| | | Control of maturational enuresis | 7 (4.8) |
| | | Potty training | 14 (9.5) |
| Risk for delayed development | 15 (20.0) | Provision of support for development process | 103 (70.0) |
| Other* | 94 (6.1) | Domain Total | 130 (7.6) |
| Infection | 27 (28.7) | | |
| Failure in school attainment | 14 (14.9) | Planned and effective studying | 28 (21.5) |
| | | Supporting enrolment of women to education | 5 (3.8) |
| Inability to use effective birth control methods | 20 (21.3) | Initiation and maintenance of effective birth control methods | 27 (20.8) |
| Risk of failure in school attainment | 12 (12.8) | Scheduling for studying | 12 (9.2) |
| Anaemia | 5 (5.3) | Increases in levels of haemoglobin | 6 (4.6) |
| | | Enrolment to training courses | 1 (0.8) |
| Other* | 16 (17.0) | Application to Employment Agency and finding a job | 8 (6.1) |
| | | Undertaking care for head louse | 22 (16.9) |
| | | Provision of economic support | 18 (14.0) |
| | | Official registration of civil marriage | 3 (2.3) |
| **Total** | **1539 (100.0)** | **Total** | **1677 (100.0)** |

* Readiness to learn, pediculosis, readiness for enhanced knowledge for reading-writing, the risk of exposure to sexual abuse, unemployed, failure to provide the families living.

variations along the duration of the practice training as a primary source of data collection.

The number of achievements per family as well as per individual as a result of the public health nursing interventions related to the diagnoses was found to be higher than the actual number of diagnoses. The results of another study in Turkey revealed significant declines in the problems observed within the family thanks to the interventions of the intern public health nurses during their public health practice training.[26] Similar findings reported in our research could be attributed as one of the positive outcomes of continuous and planned home visits, because continuity of care could be regarded as one of the important tools for positive outcomes for those receiving care service.[27] Both nursing diagnoses and achievements were reported higher for female family members in 15-49 years age group and for children younger than 5 years, which constituted the majority in the sample. Also, they were the family members who spent most of their time at home and thus might have spent more time with the intern public health nurses during home visits, as also supported by similar findings in other studies.[3,25,26] NANDA taxonomy provides a successful standardized classification for defining clinical nursing diagnosis.[28] Thus the validity of this taxonomy for the public health domain and for large-population community settings is also doubtful. However, the nursing diagnoses reported in this research were mainly classified under NANDA Taxonomy II, where only 6% of the diagnoses remained unclassified. Such results could be attributed to the curriculum implemented in nursing education, where course contents were structured on the functional health patterns of Gordon with each pattern taught in line with the nursing diagnoses of NANDA and use of NANDA in all practice implementations.[16] Thus intern public health nurses were capable of using this diagnosis system in their practice trainings. According to the findings of one research study, a majority of the intern nursing students expressed that this diagnosis system was useful in community settings as well.[29]

Public health practices as well as public health nurses primarily aim at health promotion, and home visits could be regarded as one of the most important tools in achieving this goal.[1,2] As expected, and also supported by the results of other research, a majority of the diagnoses (i.e., one-fifth) and achievements (i.e., one-third) documented by the public health intern public health nurses in our research were

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reported in the health promotion domain.[30] On the other hand, the number of diagnoses reported in the health promotion domain was identified as seventh in terms of the number of diagnoses reported per domain across 15 domains. This result could be attributed to the clinical practice implementation experience of the students during their education, which might have dominated the diagnostic attitudes of the intern public health nurses toward health promotion domain.

The characteristics of the families visited, such as lower income levels as well as lower socioeconomic status, larger size, having migrated from other regions of the country, and so on, constitute significant risks against the establishment of healthy modes of living.[23] Such families might also exhibit uncooperative behavior toward the treatment regimen. Moreover, the higher number of diagnoses reported for ineffective management of both health and therapeutic regimen could be attributed the prevalence of chronic illness for more than half of the families, as supported by another study in Turkey. Considering these 2 diagnoses, as well as readiness for enhanced health management as the third most common diagnosis, the recognition of the problem and the intention to change, the intention to upgrade health status, and looking for active ways to achieve that are essential regardless of the actual health status of the families.[16] Therefore this might be affecting the outcome in which the achievements in the health promotion domain outnumbered the diagnoses in the health promotion domain. More than half of the achievements in the health promotion domain were reported in autonomous acknowledgement and proper use of institutions providing health care by women. The autonomous use of health institutions by women could be regarded as a very important achievement with respect to the traditional, patriarchal, and conservative character of the families visited. The second most prevalent achievement in ineffective health maintenance diagnosis was reported as quitting smoking and decline in number of cigarettes smoked daily, as also supported by findings of other research conducted on outcomes of home visits.[3,31]

Security could be defined as the protection against physical, social, mental, financial, and other threats and risks to impairment of health at personal, household, community, population, national and even global level. At this point, nurses assume essential roles.[2] Security/protection was reported as the second nursing domain in this research, and the number of diagnoses was higher than all of the diagnoses across all domains. Also, one of the most reported nursing diagnoses was related to the dwellings in this research, which was similar to the findings in another research.[25] Large families with lower socioeconomic status generally encounter with deprived living conditions usually as tenants at dwellings without proper physical quality, lacking hygienic conditions, and so on. Together with other factors, such circumstances result in several negative incidences ranging from trauma and infection to home accidents and injuries.[2,22,32] Another study conducted with residents in the same area reported similar findings as well.[22] Thus in our research the most prevalent nursing diagnoses in the security/protection domain were reported as risk for trauma, risk for infection, and so on, which outnumbered the diagnoses in all other domains and ranked as second in terms of achievements. Moreover, more than half of the diagnoses in this domain remained unmatched with any achievements. This could be attributed to the inherent characteristics of the nursing diagnoses in the security/protection domain necessitating sophisticated and multiple nursing interventions that could not be met by the intern public health nurses yet. Nevertheless, the achievement reported in risk for trauma in home environment—as the diagnosis in this domain with the highest frequency and almost half of the total achievements in this domain—was prevention of home accidents and other trauma facing especially women and children by undertaking some physical rearrangements within the house. This finding was similar to the findings reported in other research in terms of the impact of home visits on maintaining security at home for families with low socioeconomic status.[12,33,34] Although the achievements related to the second- and third-ranked nursing diagnoses in this domain, the achievement of oral care habit related to the impaired oral mucous membrane diagnosis was reported as the second most common among achievements in this domain. This achievement was enabled by the independent nursing interventions of the intern public health nurses, particularly about use of dental floss, regular tooth brushing, regular visits to dentist, and so on.[16] Another study on the practice training of public health nursing in Turkey also reported problems with the lack of self-care and consequent achievements via nursing interventions.[26]

The activity/rest domain was found to be the third most reported nursing diagnosis domain and ranked second in total number of nursing diagnoses and achievements. In other words, achievements outnumbered diagnoses in this domain. When nursing interventions in this domain are considered, achievements could be acquired with the

cooperation of the families on the basis of planned and targeted home visits by the intern public health nurses. Half of the nursing diagnoses in this domain were reported as bathing self-care deficit, as supported by the findings of 1 study conducted in Turkey.[25] This high prevalence result could be related with the lower levels of income in the households. Because such socially disadvantaged families are prone to various health problems, financial hardships, and lower levels of educational attainment, the members of these families experience difficulties in accessing both health knowledge and health care services, resulting in insufficient self-care ability. Such an outcome, as also indicated by our research, reinforces insufficient leisure activities, reported as the second most prevalent nursing diagnosis under the activity/rest domain. Public health nurses perform important activities to empower individuals and maintain their self-care.[2,23] In our research, intern public health nurses were active in the achievements such as tooth brushing habit, individual participation to self-care practices, regular implementation of skin, feet, and nail care practices, and decreasing time spent watching television while guiding individuals to appropriate leisure activities.

The study revealed that one-third of chronic diseases reported included hypertension, diabetes mellitus, and coronary artery diseases, which could be related to the nutrition domain. However, as an interesting finding, the nutrition domain ranked as seventh among nursing diagnoses and fifth among achievements. Contrary to this, the growth/development domain ranked as eighth among nursing diagnosis while ranking fourth among achievements. The home visits by the intern public health nurses in relation to the interventions related to this diagnosis contributed significantly to the development of children in terms of determining delays in development in children, enhancing small motor skills, controlling maturational enuresis, and achievements in potty training, which are parallel to the findings in other related studies.[18,21]

This study had both strengths and limitations. Intern public health nurses had the opportunity to evaluate the outcomes of the long-term home visits. However, intern public health nurses did not undertake practice for 1.5 days a week, which might have turned out to result in lower numbers of nursing diagnoses as well as related achievements. Another limitation is that lack of research on long-term evaluations of nursing diagnoses by intern public health nurses and achievements reported as a result of related interventions led to insufficient comparison for findings of this study.

## CONCLUSIONS

This study revealed that planned home visits of intern public health nurses resulted in positive health achievements in terms of health knowledge, health behavior, and health management of especially women and children in the families studied. Thus the following recommendations could be proposed: (1) Intern public health nurses should receive institutional support for medical supplies; transportation costs, lunch expenses, and so on should be provided to the intern public health nurses for their home visits. (2) More research should be conducted on evaluating outcomes of home visits of nursing students. (3) NANDA nursing diagnosis may be implemented for community settings and large populations.

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