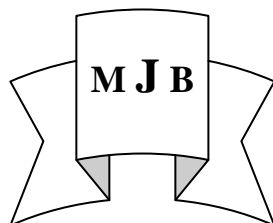


Assessment of Nurse's knowledge and their Roles of Health Education in Primary Health Care Centers Regarding Prevention from Brucellosis in Erbil City

Kareem Fattah Aziz

College of Nursing, Hawler Medical University, Erbil, Iraq.

E-mail drkareem2009@yahoo.com



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Abstract

Background and objectives: Brucellosis is a systemic infection that may manifest with a myriad of non-specific symptoms (e.g., fever, sweats, malaise, anorexia, headache, back pain) as well as substantial residual disability. Endocarditic remains the principal cause of mortality in the course of brucellosis [11]. Primary health care nurse practitioners (NPs) are registered nurse with advanced education and training that enables them to provide additional primary health care functions in the promotion of health, and disease prevention and other services [20]. The objectives is to identify nurse's knowledge, their roles regarding prevention of Brucellosis and to identify relationship between some demographic characteristics and their role of health education.

Methods: A cross-sectional study was carried out to assess the health educational roles of nurses in primary health care centers in Erbil city regarding prevention from Brucellosis from 20-10-2011 to 20-1-2012. One hundred nurses were involved in the study. The questionnaire was designed which consisted of: socio demographic characteristics for study sample, and questions related to knowledge about brucellosis and nurse's role about that. The purposive sample was selected in 10 health centers in Erbil city.

Results: Majority of nurses have knowledge about brucellosis, but there is no significant association between their health educational role about brucellosis and some variables like (age, sex and their employment).

Conclusions: Majority of nurses has knowledge about brucellosis, some of them has role of health education and there is not significant association between their knowledge and variables like (age, sex, and years of employment)

Key words: brucellosis, nurses, health centers, clients, health.

**تقييم معلومات الكادر التمريضي و دورهم التثقيفي الصحي في المراكز الرعاية الصحية
الاولية حول الوقاية من مرض البروسيللا في مدينة اربيل .**

الخلاصة

المقدمة والاهداف: ان مرض البروسيللا من اكثر الالتهابات الشائعة في العاتم حيث التقارير السنوية تشير الى اصابة ٥٠٠,٠٠٠ شخص سنويا و اكثر الاصابات تحدث في بلدان شرق الاوسط و افريقيا و هند و اسيا . قبل اكتشاف اسباب المرض كانت يعطى تسميات مختلفة لهذا المرض حسب المنطقة الجغرافية التي تنتشر فيها المرض ، فمثلا حمى البلدان الشرق الاوسط و حمى مالطا او حمى القبرص و لكن كثير من العلماء الان يعتقدون بان الاصابات قلت في السنوات الاخيرة في هذه المناطق . ان مرض بروسيللا الانسان عبارة عن التهاب منتظم تظهر فيها اعراض مرضية كثيرة مثل (الحمى ، التعرق، اوجاع العضلات ، فقدان الشهية ، الصداع

و الام الظهر) اضافة الى العجز الناجم عن المضاعفات . فى البداية تظهر المرض بشكل حاد بعد فترة الحضانة للبكتريا المسبب والتي تتراوح بين ٢-٤ اسبوعا و اذا لم يعالج المرض يمكن يؤدي الى مضاعفات كثيرة منها امراض المفاصل والقلب و الجهاز التناسلى و اخرى. ومن هنا فان الكادر التمريضى المتدرب له القابلية على تعزيز الصحة والوقاية من المرض و هى من واجباته المهمة حيث ان الناس يجب ان يتقنوا صحيا حول الابتعاد عن منتجات الالبان الغير المبسترة وخصوصا اثناء السفر الى المناطق التى تنتشر فيها المرض و على الكادر التمريضى ان يشرح للمواطنين كيفية الوقاية من المرض و الابتعاد عن منتجات الالبان و خصوصا اثناء عمل التلقيحات لهم قبل السفر الى خارج البلد . واهداف الدراسة هي قياس معلومات الكوادر التمريضية حول هذا المرض ودورهم في برنامج التنقيف الصحي حول المرض و علاقة المتغيرات بهذا الدور. **الادوات واساليب العمل:** ان هذه الدراسة وصفية وتم تنفيذها لمعرفة الدور التنقيفي للكادر التمريضى حول الوفاية من مرض البروسيللا وبدأت الدراسة من ٢٠١١, ١٠, ٢٠ ولغاية ٢٠-١-٢٠١٢ واشتملت العينة على ١٠٠ من الكوادر التمريضية فى المراكز الصحية الرئيسية فى اربيل مثل (مركز ملا افندي ، نازدار بامرني ، كوردستان ، نافع عقراوي ، طيراوة واخرين) واداة المستعملة هي الاستبيان المعدة لهذا الغرض وتحتوي على المعلومات الديموغرافية للعينة والاسئلة المتعلقة بالمعلومات و الدور التنقيفي. لهم ومهاراتهم حول الوقاية من البروسيللا .

النتائج: اظهرت نتائج البحث ان معظم الكوادر التمريضية لديهم معلومات و دور تنقيفي حول المرض وليس هناك علاقة هامة بين المتغيرات العينة منها (العمر الجنس وسنوات الخدمة) من جهة ودورهم التنقيفي من جهة اخرى.

الاستنتاجات اظهرت الدراسة بان الكوادر التمريضية لديهم معلومات حول المرض و لديهم الدور التنقيفادا توفرت المستلزمات الضرورية لذلك.

التوصيات: ١- تشجيع الكوادر التمريضية لممارسة عملهم التنقيفي الصحى للوقاية من البروسيللا وخاصة فى الصيف والربيع حيث تزداد منتوجات الالبان من الزيد والجبن واللبن وغيرها. ٢- تشجيع دوائر الصحة لوضع برنامج التنقيفي الصحى للكادر التمريضى بشكل عام وتامين الملتزمات . ٣- يجب التركيز على التنقيف الصحى الى الناس دوى العلاقة بالمرض مثل(الفلاحين ،القصابين، عمال الالبان والبيطرية .
الكلمات الدالة : بروسيلوسس، الممرضات ،المراكز الصحية ،المراجعين، الصحة.

Introduction

Brucellosis is one of the most common infections, with more than 500,000 new cases reported annually worldwide [1]. The majority of cases occur in the Mediterranean countries of Europe and Africa, Middle East, India, Central Asia, Mexico, and Central and South America [2]. Before an etiology was determined, brucellosis was known according to endemic geographical areas: Mediterranean fever, Gibraltar fever, Malta fever, Cyprus fever, and

Danube fever. Most experts believe the number is only a small fraction of the overall annual incidence [3].

Although the routes of transmission have been known for decades, and campaigns for eradication have been attempted in many countries, the consistently high number of cases reflects the challenges associated with preventing the transmission of this pathogen. Brucellosis is caused by infection with *Brucella* species bacteria. The organism is a pleomorphic, gram-negative, non-

spore-forming coccobacillus. They are facultative intracellular pathogens, localized predominantly in organs with numerous macrophages such as lung, spleen, liver, bone marrow, and synovium. Presently, there are six recognized species of *Brucella*, four of which are pathogenic to humans: *B. melitensis*, *B. abortus*, *B. suis*, and *B. canis* [4].

Human infection can occur through consumption of contaminated, unpasteurized animal products, direct contact with infected animal parts, and through the inhalation of infected aerosolized particles. Brucellosis is an occupational disease in shepherds, abattoir workers, veterinarians, dairy-industry professionals, and personnel in microbiology laboratories [5,6]. Transmission of *B. melitensis* from person-to-person has also been reported rarely [7,8,9].

The onset can be insidious or acute, generally beginning within 2 to 4 weeks after inoculation. [10]. Osteoarticular disease is the most common complication, followed by the involvement of reproductive system. Endocarditic remains the principal cause of mortality in the course of brucellosis [11]. Childhood brucellosis generally exhibits a more benign course in terms of the rate and severity of complications and the response to treatment [12,13].

The infection is present in wildlife and in domestic animals such as sheep, pigs, and cattle. Brucellosis is common in countries that have poorly developed public health systems and no standardized brucellosis-control programs for livestock [14]. People exposed to contaminated fluids and tissue while helping animals give birth, slaughtering and dressing of infected animals, or preparing foods from infected animals are at increased risk of infection. Eating undercooked infected meat is another route of

infection[15]. The fever may be continuous or intermittent Systemic infection may localize in the liver, spleen, bone marrow, joints, heart, or reproductive organs[16]. If blood or bone marrow culture is used, the laboratory must be informed that *Brucella* is suspected, so that they will process the sample for a longer period of time and protect laboratory personnel [17,18]. Antimicrobials most commonly used are doxycycline, rifampin, and streptomycin. [19] Primary health care nurse practitioners (NPs) are registered nurse with advanced education and training that enables them to provide additional primary health care functions in the promotion of health, and disease prevention and other services [20]. One of a nurse's chief duties is health education. People must be told to stay away from unpasteurised dairy produce, especially if they intend visiting overseas. The model of PHC (Primary Health Care) was adopted in the declaration of the international conferences on PHC held in Alma-Ata in 1978 (known as Alma-Ata Declaration) and became a core concept of the WHO's goal of health for all [21]. Although person to person infection with brucellosis is exceedingly rare, it has been known to happen so the epidemiologist nurse should take proper care to protect her self from the patient's bodily fluid. [22].

Methodology

Design of the study:

A cross-sectional study was carried out to assess nurse's knowledge and their roles in primary health care centers in Erbil city regarding prevention from Brucellosis, from 20-10-2011 to 20-1-2012.

Sample of the study:

One hundred nurses were involved in the study. The purposive sample was

selected in 10 primary health centers in Erbil city included (Mali fandy health center,nazdar bimarny, kudistan, nafih ikraee, azady, hafilin, taeriwa, muzafria, zanko, and layla kasm) . The data collection was done in interview technique .The objectives is to identify nurse's knowledge, their roles regarding prevention of Brucellosis and to identify relationship between some demographic characteristics and their role of health education.

Tools of the study:

The questionnaire was designed which consisted of: socio demographic characteristics for study sample, and questions related to knowledge about

brucellosis and nurse's role about health education, there were 9 questions related to different knowledge about brucellosis and 5 items about role of nurses in health education . The questionnaire was submitted to 10 of experts in nursing field for validity. Most important components in the questionnaire are questions about their knowledge and roles of health education .The questionnaire was used for data collection by interview technique with nurses . The Data was analyzed using the statistical packages for the social science SPSS version 11.5

Results

Table 1. Demographic characteristics of the study group N=100

Variables	Frequency	Percentage
Age:		
20-29	24	24%
30-39	34	34%
40-49	30	30%
50-59	12	12%
Sex		
Male	41	41%
Female	59	59%
Address;		
City center	77	77%
Suburbs	16	16%
others	7	7%
Employment of nurses by years :		
1-10 years	50	50%
11-20 years	21	21%
21-30 years	20	20%
30 years and over	9	9%
Levels of education:		
School nurses	7	7%
Secondary school nurses	25	25%
Institute nurses	59	59%
College nurses	9	9%

Table 1 shows that the highest number of age is between 30-39 years, most of them are female, majority of them are institute, school nurses and some of them are College nurses.

Most of them from city center and the highest number of sample regarding years of employment is between 1-10 years.

Table 2. knowledge of Nurses regarding Brucellosis

Do you know the definition of brucellosis?	No. (%)
Yes	69%
No	31%
Do you know the causes of brucellosis?	
Yes	81%
No	19%
Do you know signs and symptoms of brucellosis?	
Yes	72%
No	28%

Table 2 shows that The majority of sample has knowledge about brucellosis .

Table 3. knowledge of study sample regarding transmission of bacteria.

Do you know modes of transmission of bacteria?	No. (%)
Yes	89%
No	11%
Do bacteria of brucellosis lives in milk?	
Yes	93%
No	7%
Does contact with infected animal cause brucellosis?	
Yes	82%
No	18%

Table 3 shows that The majority of them have knowledge about transmission of bacteria .

Table 4. Role of nurses regarding prevention from brucellosis :

Do you do health education for clients to prevent from brucellosis?	No. (%)
Yes	68%
No	32%
Do you participate in preparing health educational program in your center to prevent from brucellosis?	
Yes	87%
No	13%
Do you participate with general health directorate in Erbil regarding prevention from brucellosis?	
Yes	55%
No	45%

The majority of Nurses have role to do health education for prevention of brucellosis and they know their responsibility about that as demonstrated in (table 4).

Table 5 Role of nurses regarding prevention from brucellosis

Do you do health education any time for butchers and veterinary staff regarding awareness of brucellosis?	No. (%)
Yes	19%
No	81%
Do you do health education for clients who attending to P.H.C, Centers about prevention brucellosis?	
Yes	55%
No	45%
Do you do health education for clients who attending your center about eating non- pasteurized cheese (village cheese) and dairy produce?	
Yes	74%
No	26%

The majority of Nurses have role to do health education for prevention of Brucellosis while majority of them don't do health education for butchers and veterinary staff as demonstrated in (table 5).

Table 6. Knowledge of study sample regarding program of health education about brucellosis:

Do you participate in any program for health education belonged to general directorate for health?	No. (%)
Yes	35%
No	55%
Does general directorate of health in Erbil put any program for nurses about health education regarding brucellosis?	
Yes	25%
No	55%
Are there sufficient requirements like hall and data show or some things like that in your center for health education?	
Yes	35%
No	65%

The majority of Nurses have not participated in training program for general directorate of health, there is not plan for that, and they haven't

enough requirements for doing health education in the center as demonstrated in (table 6).

Table 7. ANOVA regarding age of sample study and their role of health education:

Variance	Sum of square	df	Mean square	F	Sig.
Between groups	23.164	3	7.721	0.078	N.S
Within groups	9518.676	96	99.153		
Total	9541.840	99			

There is no significant relationship between age of sample study and their role of health education about

brucellosis as demonstrated in (table 7).

Table 8. Differences between male and female knowledge about their role of health education concerning to brucellosis

Group	No.	Mean	Sd.	t-value	Sig.
Male	41	9.878	3.099	0.345	NS
Female	59	9.661	3.083		

There is no significant relationship between sex of sample study and their role of health education about

brucellosis as demonstrated in (table 8).

Table 9. ANOVA regarding years of employment of sample study and their role of health education about brucellosis:

	Sum of square	df	Mean square	F	Sig.
Between groups	168.195	3	56.065	0.623	N.S
Within groups	8645 .115	96	90.053		
Total	8813.310	99			

There is no significant relationship between years of employment of sample study and their role of health education about brucellosis as demonstrated in (table 9).

Discussion

Results of the study indicated that the majority of study sample are female, and most of them are living in city center, and most of them are institute and school nurses while some of them are college nurses, and most of them between 30-39 years. Other results of this study indicated that the majority of nurses have knowledge about brucellosis and modes of

transmission, and they have desire of health education and they can hold responsibility of being educator about brucellosis this is due to their experiences because of years of employment in the Centers, so this study is agreed with the study of [24,23].Other results of the study indicated that there is no good plan for training program about health education as general, because the general directorate of health in Erbil doesn't put a plan for that , while the majority of primary health care centers have not enough requirements for doing health education , this is agree with the study of [25,26]..Results of

the study indicated that there is not significant association between nurse's role in health education about brucellosis and some demographic characteristics like (age, sex, and years of employment) because improving the educational role depending on their participation in training program prepared by general health directorate and depending on their chance for doing health education and supply all requirements for health centers for that, so the study agreed with the study of [27].

Conclusions

1-Majority of nurses have knowledge about brucellosis and they have weak role about health education.

2-There is not significant association between their role of health education about brucellosis and some demographic characteristics like (age, sex, and years of employment)

Recommendations

1-Encourage nurses to activate their educational role about prevention and awareness about brucellosis among population especially in spring and summer season with good strategic plan.

2-Cooperate with general directorate for health to put a plan for training program about health education in general for nurses in Primary Health Care Centers.

3-Prepare training program for nurses about brucellosis and provide all requirements for that by ministry of health and general directorate for health.

4-Health education should be focused on individuals who contact with animals like (butchers, farmers, workers in dairy produce, and veterinary staff).

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