

# Assessment of Knowledge, Attitude and Practice of Pharmacy Professionals Toward Generic Medicines, Northern Ethiopia, Mekelle: A Cross Sectional Study

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## ABSTRACT

**Introduction:** Generic drugs have the same chemical formula as brand product and they are bioequivalent to the originator product. Insufficient knowledge of healthcare professionals about generics causes reduced utilization of these drugs. Therefore, this study narrows the knowledge gap and the findings assist policy makers regarding generic prescribing in the future. **Aim:** To assess knowledge, Attitude and practice of pharmacy professionals toward generic products. **Method:** The study was conducted in all medicine retail outlets in Mekelle city, from April 10, 2016-May 12, 2016. Facility based cross-sectional study was used and the data collection tool were self-administered questionnaire. Statistical test binary logistic regression has been done to determine predictors of knowledge and attitude toward generic medicines. **Results:** From the current study more than half of the respondents 52.9% (agree=32.2%, 20.7% strongly agree) claimed that they have had knowledge on the concept of generic medicine. Pharmacy professionals with experience of from 2 to 5 years (AOR=25.620 [1.954-335.896]) and those with more than 5 years (AOR=106.543 [2.375-4779.542]) were more likely to have positive attitude toward generic medicines compared to those with work experience of up to 2 years. **Conclusion:** More than half of the study participants have had

knowledge on the concept of generic medicine and their right to perform generic substitution. The professionals with more experience in the sector could have better view on generic product.

**Key words:** Brand, generic; mekelle, pharmacy professionals

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## INTRODUCTION

Generic drugs have the same chemical formula as brand product,<sup>[1]</sup> contains the same active substance as the reference medicine, and it is used at the same dose(s) to treat the same disease as the reference medicine.<sup>[2]</sup> A generic medicine is a multisource pharmaceutical product which is meant to be interchangeable<sup>[3,4]</sup> with the comparator product also called innovator, proprietary or brand product. Interchangeable pharmaceutical products are considered as therapeutically equivalent of an innovator product<sup>[5]</sup>. In order to be approved, a generic medicine should be bioequivalent to the originator product, and must be the same in terms of strength, safety and quality;<sup>[3,4,6]</sup> they must be able to demonstrate bioequivalence to the originator medicine in terms of bioavailability and the rate of absorption.<sup>[7]</sup> However, the name of the medicine, its appearance (such as color or shape), its packaging,<sup>[2,7,8]</sup> size and excipient ingredients<sup>[7]</sup> can be different from those of the reference medicine. Pre-clinical and clinical testing did not have to be repeated again for generics. The deliberate result of this legislation was to guarantee that generic medicines would be cheaper than the equivalent originator medicine because it was not expected for generic medicine manufacturers to repeat again innovation, pre-clinical and clinical studies.<sup>[2]</sup>

Globally, the use of generic drugs has increased gradually as a result of financial pressure on drug budgets. In several countries throughout the globe, the practice of generic substitution (GS) is strongly supported by health authorities.<sup>[9-14]</sup> Public and private third-party payers and health care regulatory authorities increasingly encourage or obligate the use of generics through measures such as generic prescribing and generic substitution.<sup>[15-19]</sup> In Ethiopia, clinical practice guidelines enforce a prescription to be using generic names of the medicine(s).<sup>[20]</sup> In addition, the national drug policy offers a pharmacist the right to dispense generic drugs as substitutes for prescribed brand names.<sup>[21]</sup>

The concepts of generic prescribing and generic replacement have been controversial, and questions continue concerning the acceptance and promotion of generic medicines among healthcare professionals.<sup>[22-25]</sup> In the UK, for example, there was strong opposition when plans were anticipated to introduce generic replacement into UK primary care.<sup>[26]</sup> This controversy surrounds issues of quality, safety and efficacy of the generic medicines.<sup>[23,24,27,28]</sup> There is an apparent lack of knowledge pertaining to the efficacy, safety and quality of generic drugs among healthcare professionals.<sup>[29]</sup> It is imperative analyzing of the perception and attitude of participating stakeholders regarding generic medicines is a pre requisite to promote the utilization of generics.<sup>[5,28]</sup>

Inaccurate or insufficient knowledge of healthcare professionals about generics causes hesitation on the utilization of these drugs and chiefly about their efficacies and this is becoming a major obstacle to a wider use of these products.<sup>[4,30]</sup> Studies on consumers' perceptions suggest that pharmacists are main determinants in consumers' choice to rational use of generics.<sup>[23,30]</sup> A study in the area employed pharmacist and physician depicted 51.1% of the respondents believed as generic and brand drugs are totally similar. In the study 59.2% of them disagreed with the concept generic drugs have more side effects than brand drugs.<sup>[30]</sup> This study narrows the knowledge gap and the findings assist policy makers regarding generic prescribing in the future. The main

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**Cite this article as:** Yard B. Assessment of Knowledge, Attitude and Practice of Pharmacy Professionals Toward Generic Medicines, Northern Ethiopia, Mekelle: A Cross Sectional Study. *J Basic Clin Pharma* 2017;8:193-199.

objective of the study was to assess knowledge, attitude and practice of community pharmacy professionals about generic medicines and to identify factors associated with generic medicines dispensing in the community.

## METHODS

### Study area and period

The study was conducted in all medicine retail outlets in Mekelle city. Mekelle is the capital city of Tigray regional state, around 783 km away from Addis Ababa the capital city of Ethiopia. In Mekelle there are 2 governmental general hospitals, 1 comprehensive specialized hospital, 32 pharmacies, 47 drug stores and 3 drug vendors. This study was conducted from April 10, 2016-May 12, 2016.

### Study design

Facility based cross-sectional survey was used to assess Knowledge, Attitude and Practice of Pharmacy Professionals towards generic medicines at Mekelle city, Northern Ethiopia.

### Population

#### Source population

The source population was all pharmacy professional work in private retail outlets.

#### Study population

Those pharmacy professionals working in private retail outlets and available during data collection period.

### Inclusion criteria

Working in the MROs.

### Study variables

#### Independent variables

Socio-demographic characteristics of professionals (Gender, Age, Qualification, Employment position, Education institution Membership to Ethiopian Pharmaceutical Association (EPA) Work experience (years) Monthly salary Number of prescriptions filled per day).

#### Dependent variables

Knowledge of community pharmacist's on generic medicine. Attitude toward generic medicine and practice regarding generic product.

### Data collection and management

A self-administered questionnaire has been developed through an extensive review of available literature on knowledge, attitudes and practices of pharmacists regarding generic medicines. The questionnaire was developed in English and contained parts on socio-demographic profiles of the participants which followed by questions that assess their knowledge, attitude and practice toward generic medicines. Pre-test of the questionnaires were done on private community pharmacies at Quiha town which is in nearest distance to Mekelle and some of the questions were modified accordingly and the revised version of the questionnaire were used as a final data collection tool. Data collection was conducted from April 10, 2016 May 12, 2016 by five data collectors. Training focused on data abstraction was provided for the data collectors by principal investigator. Questionnaires were distributed and collected after five days.

### Data entry, analysis and interpretation

The data collected were entered into SPSS Version 23, cleaned and analyzed. In the analysis two knowledge categories were created using the total score for knowledge questions. This ranged from 8 to 40

and a total score of more than 24 (average score) was considered to have 'adequate knowledge' while score less than that was considered 'inadequate'. As to attitude, a score range of 9 to 45 was categorized using 27 as the cutoff point to delineate between positive attitude and negative attitude towards generic medicines. In the scoring, negatively worded questions were reversed. Descriptive aspects of analyses were done through calculating frequency, mean and standard deviations. Statistical test binary logistic regression has been done to determine predictors of knowledge and attitude toward generic medicines. In interpreting these tests p-value < 0.05 at 95% CI was used as a cutoff point to determine statistical significance of associations.

## RESULTS

### Socio-demographic and work profile

Of 100 questionnaires distributed, 89 of the participants returned the surveys, which make a response rate of 89%. From the participants in this study above a half was male and 58.2% were in the age range of 20-29. Majority of the participants (75.6%) were not the member of EPA and 63.6% of the participants were educated in private colleges [Table 1].

### Knowledge of pharmacy professionals on generic medicines

From the study participants 52.9% (agree=32.2%, 20.7% strongly agree) have had knowledge on the concept of generic medicine is bioequivalent to brand medicine and 38.6% of the participants strongly agree that generic medicine must contain the same amount of active ingredients as the brand medicine. From the participants 44.2% did not support the idea that substitution of medicines with narrow therapeutic index is inappropriate [Table 2].

From this study, Only position (owner vs employee) had statistically significant association in bivariate analysis which was lost in adjusted OR and it showed employee has less knowledge than Full/partial ownership (COR 0.736 [95% CI, 0.150-0.946]). No significant differences were observed among other socio-demographic and work profiles on knowledge of generic medicine [Table 3].

### Attitude and practice of pharmacy professionals toward generic medicines

From the respondents 34.4% has believed medicines are less effective compared to brand name medicines. However, 40.2% couldn't believe in the idea of brand name medicines are of higher quality compared to generic drugs. From the participants 68.8% of them believed that patients should be given enough explanations about the reasons for choosing generic medicines [Table 4].

Pharmacy professionals with experience of from 2 to 5 years (AOR=25.620 [1.954-335.896]) and those with more than 5 years (AOR=106.543 [2.375-4779.542]) were more likely to have positive attitude toward generic medicines compared to those with work experience of up to 2 years [Table 5].

Nearly half of the participants (48.3%) declared that lack of belief in generic medicines as important factor that hinder dispensing of generic medicine. From the participants 73.6% and 70.9% of them revealed that affordability to the customer and consumer preference as factor to reduce selection and dispensing of generic medicine [Table 6].

From this study 55.9% (agree=17%, strongly agree 38.9%) of the participant claimed locally manufactured generics are equal in their quality compared to the imported generics and 60.2% believed they are equal in their safety and efficacy. From respondents 62.4% claimed locally manufactured generics are cheaper compared to imported generics [Table 7].

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**Table 1:** Socio-demographic profile of community pharmacists in Mekelle city, August 2016

Variable	N	Category of hospital Intervention (%)
Gender	89	Male 47 (52.8)
		Female 42 (47.2)
Age group (years)	79	20-29 46 (58.2)
		30-39 18 (22.8)
		40+ 15 (19.0)
		Diploma 34 (38.2)
Qualification	89	Degree 19 (21.3)
		MSc 36 (40.4)
		Full/part owner 39 (45.3)
Employment position	86	Employee 46 (53.5)
		Others* 1 (1.2)
		Private institution 56 (63.6)
Education institution	88	Government/public institution 32 (36.4)
		Membership to Ethiopian Pharmaceutical Association (EPA)
Membership to Ethiopian Pharmaceutical Association (EPA)	86	Yes 21 (24.4)
		No 65 (75.6)
Work experience (years)	87	Up to 2 30 (34.5)
		From 2.1 to 5 37 (42.5)
		More than 5 20 (23.0)
		Up to 2500 35 (58.3)
Monthly salary	60	2501 to 5000 20 (38.3)
		More than 5000 5 (8.3)
		Up to 10 44 (54.3)
		11-20 17 (21.0)
Number of prescriptions filled per day	81	21-30 8 (9.9)
		>30 12 (14.8)

**Table 2:** Knowledge of community pharmacist's on generic medicine in Mekelle city, August 2016

Variable	N	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)
A generic medicine is bioequivalent to brand medicine	87	9 (10.4)	17 (19.5)	15 (17.2)	28 (32.2)	18 (20.7)
A generic medicine must contain the same amount of active ingredients as the brand medicine	88	5 (5.7)	10 (11.4)	6 (6.8)	33 (37.5)	34 (38.6)
A generic medicine must be in the same dosage form as the brand medicine	87	9 (10.4)	15 (17.2)	7 (8.1)	35 (40.2)	21 (24.1)
Generic medicines are cheaper than brand name medicines	88	9 (10.2)	9 (10.2)	5 (5.7)	32 (36.4)	33 (37.5)
Wider use of generic medicines in Ethiopia helps in decreasing the health care expenditure of government	87	10 (11.5)	24 (27.6)	8 (9.2)	26 (29.9)	19 (21.8)
Community pharmacists in Ethiopia have the right to perform generic substitution	88	7 (8.0)	12 (13.6)	17 (19.3)	32 (36.8)	20 (23.3)
Substitution of medicines with narrow therapeutic index is inappropriate	86	20 (23.3)	18 (20.9)	13 (15.1)	25 (29.1)	10 (11.6)
In Ethiopia generic medicines are approved by FMHACA just like brand medicines	86	9 (10.5)	8 (9.3)	11 (12.8)	40 (46.5)	18 (20.9)

## DISCUSSION

This study attempted to assess knowledge, attitude and practice of community pharmacist toward generic medicines and it tried to assess their views toward locally produced generic medicine in Mekelle city. From the current study more than half of the respondents 52.9% (agree=32.2%, 20.7% strongly agree) claimed that they have had knowledge on the concept of generic medicine is bioequivalent to brand medicine which is much lower than the study reported from new Zealand which depicted 70 percent of the participants had knowledge on bioequivalence of generic medicine to the brand product; this difference might be the result of difference in educational status of the participants.<sup>[31]</sup> On the other hand the finding of this study is higher than the report of Malaysia that revealed 50.2% of the pharmacists claimed that generic medicines are therapeutically equivalent with that of innovator product.<sup>[32]</sup> From the participants 64.3% of them claimed that generic medicine must be in the same dosage form as the brand

medicine which is lower finding when compared with the report of Australia that revealed 84.1% of the respondents claimed this truth. From the current study 73.9% of them claimed that generic medicines are cheaper than brand name medicines which are still lower than the report of Australia that announced 91.3% of the participants claimed generic as cheaper product than brand.<sup>[33]</sup> From the participants 59.8% of the pharmacists have had knowledge on the right to perform generic substitution which is much lower than the report from survey of 1,000 French community pharmacists that reported 90% of the pharmacists were comfortable to utilize their substitution right.<sup>[34]</sup>

From this study, Only position (owner versus employee) had statistically significant association in bivariate analysis which was lost in adjusted OR and it showed employee has less knowledge than Full/partial ownership (COR 0.736 [95% CI, 0.150-0.946]) this difference may results from the difference in interest. Those business holders might have great interest toward their professional practice due to their

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**Table 3:** Predictors of knowledge of community pharmacist in Mekelle city, August 2016

Variable	Knowledge on generics		Crude OR [95% CI]	Adjusted OR [95% CI]
	Yes (%)	No (%)		
Sex				
Male	33 (70.2)	14 (29.8)	1	1
Female	23 (54.8)	19 (45.2)	0.514 [0.215-1.228]	0.761 [0.144-4.029]
Age group (yrs)				
20-29	29 (63.0)	17 (37.0)	1	1
30-39	12 (66.7)	6 (33.3)	1.172 [0.372-3.697]	1.231 [0.093-16.325]
40+	8 (53.3)	7 (46.7)	0.670 [0.206-2.176]	0.356 [0.017-7.543]
Qualification				
Diploma	29 (56.9)	22 (43.1)	1	1
Degree and above	28 (71.8)	11 (28.2)	1.931 [0.792-4.706]	1.264 [0.119-13.386]
Position				
Full/partial ownership	29 (74.4)	10 (25.6)	1	1
Employee	24 (52.2)	22 (47.8)	0.736 [0.150-0.946]*	0.293 [0.051-1.704]
Work experience				
Up to 2	19 (63.3)	11 (36.7)	1	1
From 2.1 to 5	24 (64.9)	13 (35.1)	1.069 [0.392-2.915]	2.257 [0.363-14.034]
More than 5	11 (55.0)	9 (45.0)	0.708 [0.224-2.240]	0.908 [0.053-15.652]
Salary (ETB)				
Up to 2500	19 (54.3)	16 (45.7)	1	1
2501 to 5000	14 (70.0)	6 (30.0)	1.965 [0.613-6.298]	4.411 [0.577-33.712]
More than 5000	3 (60.0)	2 (40.0)	1.263 [0.187-8.520]	2.738 [0.099-75.797]
Education institution				
Private	36 (64.3)	20 (35.7)	1	1
Government	19 (59.4)	13 (40.6)	0.812 [0.333-1.982]	0.215 [0.026-1.766]
Membership to EPA				
Yes	10 (47.6)	11 (52.4)	1	1
No	44 (67.7)	21 (32.3)	2.305 [0.846-6.276]	6.601 [0.957-45.559]
Mean number of prescriptions filled per day (SD)	1.94 (1.15)	1.71 (1.04)	1.217 [0.797-1.858]	1.179 [0.458-3.036]

**Table 4:** Attitude of community pharmacist toward generic medicine in Mekelle city, August 2016

Variable	N	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)
Generic medicines are less effective compared to brand name medicines	90	24 (26.7)	21 (23.3)	14 (15.6)	27 (30.0)	4 (4.4)
Brand name medicines are of higher quality compared to generic drugs	89	18 (20.2)	18 (20.2)	7 (7.9)	33 (37.1)	13 (14.6)
Generic drugs produce more side effects than brand name medicines	89	27 (30.3)	21 (23.6)	9 (10.1)	26 (29.2)	6 (6.7)
Generic medicines take longer time to give response	88	16 (18.2)	25 (28.4)	13 (14.8)	25 (28.4)	9 (10.2)
I support generic substitution for brand name medicines in all cases where s generic is available	87	14 (16.1)	26 (29.9)	13 (14.9)	22 (25.3)	12 (13.8)
Price difference between generic and brand medicine is often so great that I feel I must dispense prescriptions with generic substitution especially for people who do not afford.	89	6 (6.7)	10 (11.2)	20 (22.5)	30 (33.7)	23 (7.7)
Patients should be given enough explanations about the reasons for choosing generic medicines	90	4 (4.4)	15 (16.7)	9 (10.0)	34 (37.7)	28 (31.1)
The intensity of promotional activities by promoters plays an important role in dispensing brand medicines	88	5 (5.7)	12 (13.6)	7 (8.0)	34 (38.6)	30 (34.1)
Community pharmacists should be allowed to perform generic substitutions without consulting prescribing physicians	87	11 (12.6)	19 (21.8)	13 (14.9)	25 (28.7)	19 (21.8)

success in pharmaceutical business.

From the study participant's 34.4% have an attitude of generic medicines are less effective compared to brand name medicines and 50% of respondents disagree with the concept of generic is less effective in comparison to brand products. Study from Malaysia reported 58.4% of the pharmacist's perceived local generics as equal in safety and

efficacy as the imported products,<sup>[35]</sup> which shows better perception in generic medicine acceptance in Malaysia than Mekelle so, promotion of generic medicine might be critical work in Mekelle. More than half (51.7%) of the participants support the idea of brand name medicines are of higher quality compared to generic drugs this finding is better when we compare to the result reported from Australia that depicted

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**Table 5:** Predictors of attitude of community pharmacist in Mekelle city, August 2016

Variable	Attitude toward generic		Crude OR [95% CI]	Adjusted OR [95% CI]
	Yes (%)	No (%)		
Sex				
Male	34 (72.3)	13 (27.7)	1	1
Female	25 (59.5)	17 (40.5)	0.562 [0.231-1.366]	0.337 [0.055-2.054]
Age group (yrs)				
20-29	27 (58.7)	19 (41.3)	1	1
30-39	13 (72.2)	5 (27.8)	1.830 [0.558-5.994]	0.642 [0.039-10.634]
40+	11 (73.3)	4 (26.7)	1.935 [0.535-7.003]	3.337 [0.077-144.185]
Qualification				
Diploma	29 (56.9)	22 (43.1)	1	1
Degree & above	30 (76.9)	9 (23.1)	2.529 [0.999-6.399]	6.762 [0.347-131.611]
Position				
Full/partial ownership	30 (76.9)	9 (23.1)	1	1
Employee	27 (58.7)	19 (41.3)	0.426 [0.165-1.100]	1.469 [0.174-12.376]
Work experience (yrs)				
Up to 2	15 (50.0)	15 (50.0)	1	1
From 2.1 to 5	27 (73.0)	10 (27.0)	2.700 [0.974-7.481]	25.620 [1.954-335.869]*
More than 5	14 (70.0)	6 (30.0)	2.333 [0.707-7.704]	106.543 [2.375-4779.542]*
Salary (ETB)				
Up to 2500	21 (60.0)	14 (40.0)	1	1
2501 to 5000	13 (65.0)	7 (35.0)	1.238 [0.396-3.875]	0.843 [0.053-13.407]
More than 5000	2 (40.0)	3 (60.0)	0.444 [0.066-3.010]	0.014 [0.000-1.351]
Education institution				
Private	34 (60.7)	22 (39.3)	1	1
Government	23 (71.9)	9 (28.1)	1.654 [0.647-4.228]	1.914 [0.158-23.224]
EPA Membership				
Yes	10 (47.6)	11 (52.4)	1	1
No	46 (70.8)	19 (29.2)	2.663 [0.970-7.308]	13.744 [0.857-220.381]
Mean number of prescriptions filled per day (SD)	1.89 (1.16)	1.79 (1.03)	1.088 [0.713-1.661]	0.748 [0.248-2.255]
Knowledge on generics				
Yes	39 (68.4)	18 (31.6)	1	1
No	20 (60.6)	13 (39.4)	1.408 [0.576-3.444]	5.066 [0.547-46.886]

**Table 6:** Possible influencing factors related to selection and dispensing of generic medicines among the community pharmacists.

Variable	N	Not important (%)	Neutral (%)	Important (%)
Lack of belief in generic medicines	87	27 (31.0)	18 (20.7)	42 (48.3)
Availability of policies, laws & regulations	87	22 (25.3)	29 (33.3)	36 (41.4)
Affordability to the customer	87	11 (12.6)	12 (13.8)	64 (73.6)
Lacking options	85	30 (35.3)	12 (14.1)	43 (50.6)
Consumer preference/ demand	86	13 (15.1)	12 (14.0)	61 (70.9)
Cost effectiveness of generic medicines	87	19 (21.8)	11 (12.6)	57 (65.5)
Substitution agreement with prescriber	87	25 (28.7)	16 (18.4)	46 (52.9)

89.6% of participants claimed generic medicines are of inferior quality to brand-name drugs.<sup>[33]</sup> The difference of those two findings might be the result of the difference in the nature of the participant's in case of Australian study, the participants were pre-registrant pharmacist and in case of our study, the practitioner from junior to senior were involved. From the current study 39.1% of the respondent's claimed that they support generic substitution for brand name medicines in all cases where as generic is available but study from India published that 80% of the respondents did not support generic substitution, even in case of prescribed medicines are not available.<sup>[36]</sup> From our study we can realize that our community pharmacy practitioner has good attitude and awareness toward generic substitution. The current study showed 50.5% of the participants claimed that community pharmacists should be allowed to perform generic substitutions without consulting

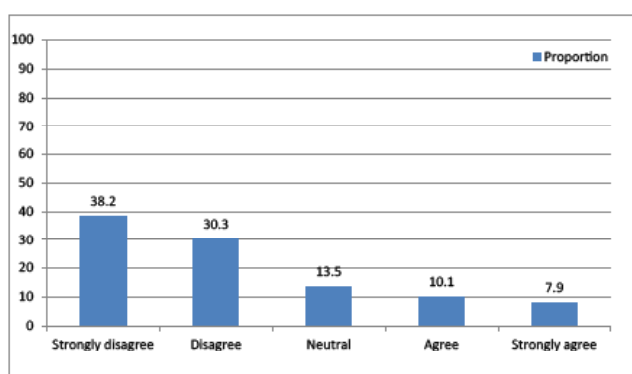
prescribing physicians which is lower than the report of Turkey that revealed 55% of the respondent's acclaim that Pharmacist may substitute a generic on his own.<sup>[37]</sup>

Pharmacy professionals with experience of from 2 to 5 years (AOR=25.620 [1.954-335.896]) and those with more than 5 years (AOR=106.543 [2.375-4779.542]) were more likely to have positive attitude toward generic medicines compared to those with work experience of up to 2 years this might be the result of experience, if the pharmacists had more experience in their professional sector they could have better view on generic product.

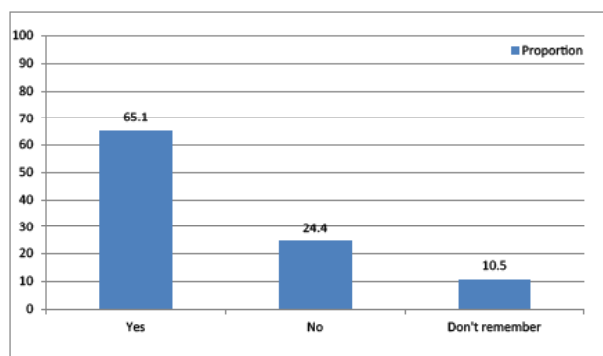
From findings of the current study 48.3% of respondents claimed that lack of belief in generic medicines is one of the factor during dispensing, this finding is much higher when we compare it with the findings

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Variable	N	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)
Locally manufactured generics are equal in their quality compared to the imported generics	88	8 (9.1)	17 (19.3)	13 (14.8)	15 (17.0)	35 (38.9)
Locally manufactured generics are equal in their safety and efficacy compared to the imported generic	88	7 (8.0)	13 (14.8)	15 (17.0)	12 (13.6)	41 (46.6)
Manufacturers of local generic products have a reliable logistic and supply system	87	8 (9.2)	12 (13.8)	26 (29.9)	16 (18.4)	25 (28.7)
I prefer to stock and dispense locally manufactured generics because the companies provide good bonus scheme compared to suppliers importing them	85	20 (23.5)	29 (34.1)	17 (20.0)	9 (10.6)	10 (11.8)
Credibility of the generic manufactures/suppliers is my concern when stocking medicines in my pharmacy.	83	9 (10.8)	25 (30.1)	21 (25.3)	11 (13.3)	17 (20.5)
I will only stock locally manufactured product which is well advertised through medical representatives and medicine related references.	86	13 (15.1)	34 (39.5)	11 (12.8)	17 (19.8)	11 (12.8)
Imported generics need to pass more stringent approval process compared with locally manufactured ones.	86	7 (8.1)	17 (19.8)	21 (24.4)	18 (20.9)	23 (26.7)
Locally manufactured generics are cheaper compared to imported generics.	85	3 (3.5)	19 (22.4)	10 (11.8)	23 (27.1)	30 (35.3)
Drug Regulatory Authorities need to convince pharmacists that registered locally manufactured generics are of high quality and standards.	83	13 (15.7)	19 (22.9)	12 (14.5)	19 (22.9)	20 (24.1)



**Figure 1:** Respondents' level of agreement on dispensing generic medicines to their families



**Figure 2:** Respondents who recommended the replacement of brand medicines with generic ones

reported from Ireland that depicted 98% of pharmacists believed that generics were of a similar quality to the originator, and 96% stated that they were as effective as the originator.<sup>[38]</sup> This difference might be the result of difference in awareness of community pharmacist in Ireland and Ethiopia. As we know Ireland is developed countries and the awareness of the practitioner and implementation of quality health policy would be better. Around three fourth (73.6) of the respondents in the current study consider affordability to the customer is important factors for dispensing generic products. Which is lower report in comparison to findings announced from Australia that showed 91.3% of participants claimed generic medicines are less expensive than brand-name medicines.<sup>[33]</sup> This might be results from extra availability of generic products which reduce price of the generic products.

From the current study 55.9% of the respondents [Figure 1 and 2] claimed that locally manufactured generics are equal in their quality compared to the imported generics this result is lower in comparison to findings reported from Kabul that showed 47.5% of the respondents were accepting the concept of locally manufactured generics are equal in their quality compared to the imported generics.<sup>[39]</sup> From the current study 60.2% of the participants agreed with concept of locally manufactured generics are equal in their safety and efficacy compared to the imported generic this finding is higher in comparison to the report published from Malaysia which depicted 58.4% of the respondents believed locally manufactured generics are equal in their safety and efficacy to the imported generic.<sup>[35]</sup> Around 63% of the participants in our study claimed that locally manufactured generics are cheaper compared to imported generics and 47.6% of them were considered that imported generics need to pass more stringent approval process compared with locally manufactured ones this result is comparable with findings reported from Malaysia that revealed 47.9% of the respondents agreed with concept of imported generics need to pass more stringent approval process compared with locally manufactured ones<sup>[35]</sup> this similarity could be result of similarity in economic status of the country that would contribute for similar health structure, function and professional awareness.

## CONCLUSION

From this study it is possible to conclude that more than half of the respondents have had knowledge on the concept of generic medicine and their right to perform generic substitution. Year of experience were depicted as a factor for difference in their knowledge and if the pharmacists had more experience in their professional sector they could have better view on generic product. Nearly half of the participants of this study claimed that lack of belief in generic medicines is one of the factors during dispensing.

## Acknowledgement

Deepest gratitude goes to the study participants and for the owner of medicine retail outlets in Mekelle city for their permission to conduct this study.

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